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D. Beaver  
1967

Alaska

Journal

Insect Sampling

Species Accounts



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# Catalogue

1

16 June

AACS installations, Point Barrow, 94° 45' N, Alaska

DLB #1

♀

Phalaropus fulicarius Ad. ov.

wt. 50 gm.

(possibly dried)

1900 (picked up.)

fat-

5 July

Bornel area, Barrow, Alaska

DLB #2

♂?

Ad. L. x 8 mm x 3 mm.  
R - shot.

wt. 565 gm.

very fat

1005







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Journal 1

13 June

Barnes Research Station, 9A, Alaska

0900

Left by myself to south of research station to look over the tundra. This area has many barrels, old scrap metal, and other junk.

I saw a snow Bunting ♂ and ♀ together

on a grassy clump of the tundra (see sp. account)

0915

I've just spotted two lapland Longspurs on the ground near a groove in the tundra which is full of water (see sp. accounts)

0930

I've just come upon King Eider Duck (♂) sitting in a small (15' x 8') pond of water. He is either very tame or injured because I walked up to him and he only moved off a few feet. (see sp. account).

0950

I've just spotted a Pomarine Jaeger and a snowy owl. The P. Jaeger is sitting on a high spot on the tundra in an open space in the car pile. The S. Owl is perched on top of a power pole holding wires that run to a small building. (see sp. accounts)

Observed these birds for about 10 min. when I saw another S. Owl and 2 P. Jaegers fly close by to the south of me & camp.

1009

4 shore birds just flew by in rapid flight and they were making a chirping noise that sounds very much like a frog call. I saw them land and decided they were Red-







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13 June (cont.)

1009 (cont.) - Boaked Sandpiper called a Dunlin by Peterson. The ♂ gave a series of calls while on the ground and continued in flight that sounded like a Hyla or Pseudacris call. (see sp. account)

1030 We now walked further east across a road which comes from the east side of the camp. East of me I see an American Golden Plover (see sp. account). I also see 4 pectoral sandpipers feeding and calling near a barrel set in the tundra. (see sp. account)

1040 In circling back to camp now and I still see a P. Tanager, S. Owl, L. B. Sandpiper, and a pectoral sandpiper.

1115 Arrived back in camp to compile notes and see Dr. Pitelka concerning this afternoon's activity.

1330 Karl Tolonen and I left the camp to head east to survey the tundra for shore birds and the like. We walked west on the beach road to the FDA installation and there saw a Red and Northern Phalarope pair feeding in a ~~small~~ <sup>small</sup> ~~rough~~ <sup>rough</sup> like canal. (see sp. account)

1350 Just walked up on Willige ridge (according to Karl) and have sighted 17 pectoral sandpiper








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13 June (cont.)

1350 (cont.) They were feeding and some were calling and flying about (see sp. account).

1430 Still on village ridge but now south and west of last journal note. Here I see two Pom. Jaegers acting like they are copulating (see sp. account). Also see several Red-backed Sandpiper. A flock of King Eiders ducks flew over going west and north. I'll note here my first impressions of the topography of the tundra. It is very flat in most places with ridges (beach ridges - village ridge) that run across the tundra. Low areas are full of water and most places have snow. The tundra appears to be broken up in to separate units, which are called "polygons". These are portions of tundra that are separated from the other parts of the tundra by troughs of water  which are all interconnected. Some of the polygons have small "pods" in their center, others are flat w/o water and some are raised considerably in the center. The vegetation on these polygons varies considerably with the slope and amount of the present. Moss and lichen are present in all the areas, grasses & some prostrate willows are in deeper portions of polygons and reed or sedge like grasses are in the water.







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13 June (cont)

1430<sup>(u)</sup> filled troughs. I might note that the wind is out of the East at about 10 mph. & is cold. The clouds are low & the sun hidden. I estimate the temperature at 45 °F or less.

1630 Karl and I walked around a large water filled basin and then began to head back to camp. We found several dead Targui Crabs on the way back. We arrived in camp at 1645.

14 June Dr. Pitelka, Skare, Karl, and I left in  
~0830 the vessel for Footprint Lake and surrounding areas. Karl got out on Beach ridge and the rest of us continued on to the lake. We stopped  
0900 on the head and got out to look around. We saw a flock of pintail ducks on a small body of water. Pectoral sandpipers were feeding and calling all around us as were Am. Golden Plovers, P. B. Longspurs and M. B. Longspurs. Dr. Pitelka says that very few birds are here in comparison to past years.

0940 We are now East of Footprint and have stopped to look over the tundra on Footprint ridge. Here we saw two white-rumped sandpipers and heard a knot. McKen took some data on a P.B. Longspur feeding. Then we left for some high polygons along the pipeline just south of the camp about 3/4 mi.







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14 June

1020

At the fulgurs with real high water, we found a Longspur nest with six eggs that Dr. Kitcher had found earlier. (See sp. account). A ♀ Red-bellied Sandpiper was also observed giving a distraction display, so we backed off until she returned to the nest. Then we went to the nest which had 3 very large eggs (in relation to the size of the bird's body) that were dark in color (see sp. account).

11:30

Returned to camp.

12:50

spent the remainder of the day gathering equipment for the start of my project on the Diptera larvae and the like.

5  
15 June

0800

K. Tolonen and I went out into the barbed area, I to get some tundra samples for Diptera larvae and Karl to observe shore birds. I had to get a shovel to cut sections of tundra some were delayed in leaving about 20 minutes.

0915

Karl and I have been observing a pair(?) or possibly two males of (see species account) the Semi-palmated Sandpiper ~~Calidris~~ Calidris pusillus. We watched the birds for several minutes before moving on south.

The weather today is cloudy & rather chilly. The rain last night (told me by Karl and







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Bareil area (cont.)

15 June  
(cont.)

as evidenced by the moist ground around camp) really melted and softened the snow still remaining in the Bareil area and appeared to have removed large patches further south. Based on my memory of the amount of snow seen there my first two days here.

After observing many displays of C. pusillus, I approached both birds and took a photo of one bird at 7 feet with Ektachrome ASA 64. f 7 + 250 sec.

0920

Karl saw one of his nest markers so we located the nest. It was a longspur nest w/ 6 eggs (see sp. account).

0930

Karl and I just sighted a prossio Falger (see sp. account).

0940

Karl and I came to a C. pusillus nest earlier marked by Karl. (see sp. account) I took a photo - Ektachrome at f. 8 - 250 sec.  $\approx$  3 ft or less. No plastic rule in it for reference.

0945

We are more distant from the Bareil now and in an area of poorly developed polygons. I dig out a section of the







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15 June (cont.)

0945 (cont.) to sample for Diptera larvae.

This I called sample #1. See results of sample in Diptera Study Book under Sample #1. Further south about 100 ft, I took another sample (#2) from the top of a low polygon. I then returned to the lab.

1300 I went to the ARL Library to find any dipterist literature that might be available. Very few pertinent articles were found. The remainder of the afternoon was spent looking through sample #2. Only two larvae were found in this sample.

16 June

0800

Started working over sample #1 this morning. Am finding more larvae of Diptera and other invertebrates. I spent the rest of the day to evening working on the samples. Found nematodes, Annelids, Tardigrades larvae and more Chironomids.

1900

I left w/ camera and 350mm. telephoto lens to photograph some shore birds and others. I first ~~went~~ went to the coast and took two pictures of the ice (F11 @ 250mm. 50mm.). Then I walked out on to the ~~ice~~ ice on the east beach area and photographed a Snow Bunting. I looked for ~~other~~ other, etc.







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16 June (cont.)

1930 (cont.) Took a *C. pusillus* ♂ on its territory. I also took a photo of a herring that came out from under a discarded wooden crate.

1800 I'm out near the AACS installation and see several *P. Jaegers* flying over. But could photograph none of them. I returned to camp after talking with T. Custer. He had found a Red Phalarope ♀ which I went to put up so I kept it. (See catalogue)

17 June

0830 Decided to go collect terrestrial samples for Steve Barlow and my work.

1030 Finally left after having to sew up my parka zipper and locate some sampling sacks.

1050 I'm now about 1/2 mi. S. of A.L. building and just saw two snowy owls (see p. account) with one chasing the other.

1100 I'm now near the gas line and I see 4 Pact. Scaup feeding. I took my first feeding data note.

17 Ja / M / 001 / 114 / 1p / d / 10A / 5h / (Hatched in) 2 /  
pc - 9 / - 2pr.

1120 Just located a longear nest down west of the AACS installation about 300 yds or so. Had 4 eggs - I marked it with a stick.







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17 June (cont.)

1125

Was now within 100 ft. of the gasoline and line just spotted a Buff-breasted Sandpiper feeding on a high polygon near the trough. It flew almost immediately after I spotted it. Also, an Am. Golden Plover is feeding about 10 ft. east of the Buff Sandpiper.

1210

I've started taking samples now. I'm on the South edge of N. Meadow Lake and I'm going to work on through to the N. end. I need 1 Burlew samples + 2 samples for my work.

1220

I've completed ~~the~~ the sample work and am now headed in for lunch.

1235

Just found a Longspur nest with 2 eggs in it <sup>(flew off)</sup> marked it. This location is 1 pole N of the yellow building of the AACS installation and about 400 yds. West.

1255

Arrived back in camp.

18 June

0900

Cleared the lab up and looked through some insect samples. Being Sunday, I took the rest of the day off.







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19 June

0800

Went through sample #3 and found Pedicia  
lannai. Then, S. Maclean showed  
me his samples of Tigula arimifrons and  
Prionocera gracilistyla. We spent the remainder  
of the A.M. talking about the project, which  
gave me an added lift toward deciding how to  
start the project going.

1200

Ate lunch then helped T. Coster make  
mist net poles after the sliding fashion  
I used for my M.S. study on Phaethon.  
We (Collyer - Karl, Steve, Du Pillea, Tom and  
I) took the net and poles out to the drum  
area and set it up along the gas line (about  
200 ft east). And attempted to scare birds  
into the net. However, the wind (about  
15-20 mph) out of the east caused the net  
to billow and wave in such a way to cause  
it to be visible to the birds. We didn't

~1520

catch anything. S. Maclean and I  
walked on S. toward the location of  
his tangle foot insect traps to see if  
I would want to sample there. on the  
way, about 100 yd S + slightly west of the  
most concentrated barrels (100 yd N + W of  
AA(5)) I got this feeding observation on  
C. ~~pallidus~~ melanotus







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19 June  
(Cont.)

1500

19 Jun / Baseline / m / 002 / 1500 / pc /  $\frac{5}{6}$  / A /  $\frac{3}{2}$  /  
C-O / pc.

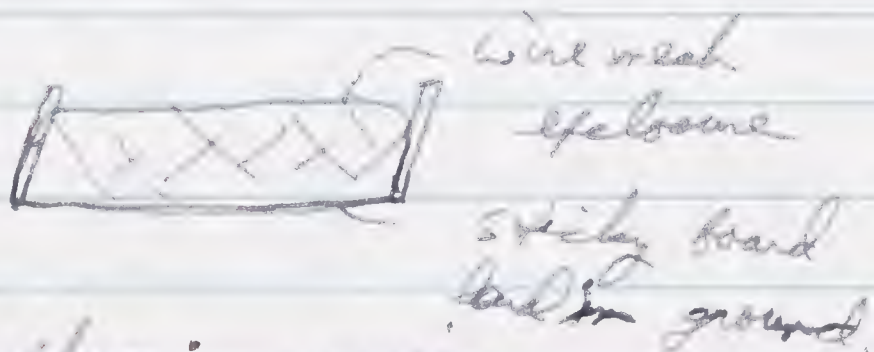
We continued on a short distance to the  
area just west of the AACs installation and  
I took:

19 Jun / AACs / m / 003 / 1500 / flat / SW /  $\frac{3}{6}$  / A  
 $\frac{1}{1}$  / C-3 / JB - pb /

As we went on out in the marsh (called  
micromet marsh by Steve) I took:

19 Jun / Micromet marsh / m / 004 / 1500 / flat / SW /  
 $\frac{3}{6}$  / A /  $\frac{5}{2}$  / 2 / JB - occ. pb. /

We then continued on up on Baseline  
ridge to look at some eye place which  
looked like -



We had a few flies in various  
habitats along the ridge. As we walked  
on down the ridge, a Pom Jaeger flew  
up off the tundra and gave a few calls and then  
flew towards us. We were sure it had a nest some







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19 June

Backed off and then walked off, each in a  
diverging direction, in an attempt to triangulate  
on the nest. The bird returned to the nest and  
then we walked so far (it?) the nest had  
2 eggs in it placed like so. It seemed the  
eggs were placed rather far apart for incubation.



(See p. account for action of birds during this  
time.)

1620

We then returned to camp.

1740

T. Custer had to go check farming trapline  
lines one and two so Paul, Markon and I  
went along. The two trap lines are located  
about 1/4 mi S. of the main met. buildings on  
the S. side of the "road". In the lines  
I found two longears ♂ + ♀ in the traps.

We went on to the 5 and 6 line on the N. edge  
of central marsh and on the way saw a S. Owl  
carrying a bird. We stopped and picked  
up the bird and took it with us. We  
checked the lines and returned. (See S. Owl  
account for behavior during the carrying  
of the bird.) We talked at the lab. for  
a while and then I turned in.







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20 June

0800

T. Custer and I left for trap line and  
went to check the Lemming traps and try and  
photograph shore birds. Took several photos  
of a Red Phalarope ♂ & ♀. We went back to  
the Jaeger (dome) nest found yesterday by  
Mickelson and I to take pictures of the bird  
as she lived up to us. We both got good  
photos of the bird living on us. Then we  
went to line 5 and 6 in central marsh.  
Tom took several photos of 2 birds and  
Glaucous Gulls. We arrived back at the  
lab. at 1200. The weather this A.M. is clear  
but windy and cold. The wind is about 15-20 mph  
from the S.E.

1300

I went to the lab. in the P.M. to go through more  
junkie samples (see Diptera study) and also  
to read some literature on Diptera ecology  
and phenology. Then I plan for tomorrow's trip, etc.

1800

Went with Tom to check the Lemming line.  
It was cold and windy. On the return we  
stopped at Tom's marked Longspur nest to  
watch the actions of ♀ and ♂ that is presently  
in the process of rearranging because you  
collected the primary ♂ at the nest.

2300

Finally got back in and am turning  
in.







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21 June.

0830

Dr. Pitelka, Steve and I left for Central marsh (Beach Ridge) burning line. Dr. Pitelka drove to a spot on top of the flat S. of the road and then continued to the burning line on foot while we waited and I went back to Beach ridge at the micro. plot building to take soil samples from the tundra for my Diptera work.

0930

The following samples were taken (in sequence with earlier samples) See Diptera study.

Sample #5

on the ridge - From the center of a high polygon.

Sample #6 - as above - difference in vegetative cover.

Sample #7 - high polygon center - grassy

Sample #8 - as above

Sample #9 - trough between polygons

Sample #10 - as above

Sample #11 - top of a low polygon - grassy







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21 June (cont.)

Sample #12 - as number 11

Sample #13 - From flat area with standing water

Sample #14 - as above

Sample #15 - Pond edge (very many ponds)

Sample #16 - as above.

1030

Central marsh top line, Beach ridge as it slopes S. to the marsh edge

A slight rain has begun and looks like it will continue for a while. I checked both lines 5 and 6 and had to reset many traps because the rain(?) had set them off. After finishing the lines, I took four more samples. All were taken toward the bottom of the slope of Beach ridge to central marsh.

Sample #17, 18, 19, and 20 all from this slope. (see Diptera study)

1205

Wearmied back at the lab.

1300

I took all the samples into the lab. and placed the very wet ones in the Berlese funnels to dry them some before going through





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21 June (cont.)

1300 (cont.) Then by hand. After doing this, I spent the remainder of the afternoon ~~making~~ going through samples #4 and 5 (see Diptera study).

1700 Tom, Steve and I took the vessel and went out to the lummy lines on each ridge, central marsh. On the way, I collected a Pectoral Sandpiper ♂ for Maclean and he took several pictures of the birds with his telephoto lens (300mm). I also saw my first Ruddy Turnstone standing out in the swamps with Pectoral and Red Phalarope. We checked the lines and had a Red-backed Sandpiper, Red Phalarope ♂ and 1 lummy in the line.

2150 We returned to the lab. I turned in - Steve and Tom went back out.

22 June

0800

Started doing sample #6 and then at about 0930, Tom and I went out to check lines 5 and 6 and then pick them up. On the way back, we broke a track on the vessel but not clear through. We managed to limp back in by 1205. The ~~west~~ wind has been blowing all morning and the clouds are low. Look like a storm could be moving in.

1300

I started up again on sample #6 (see Diptera study) and continued on through





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22 June (cont.)

Sample #7. It snowed lightly during the afternoon and was cold.

1900

Steve, Tom and I constructed a bownet trap to catch longspurs and possibly shore birds on the nest. The trap consisted of the following.



We took the trap out to the drum area and set up a dummy ♂ and tried to catch males coming to the dummy, but we had no luck. So, we set the trap on a nest and caught the ♀ which we banded and color banded and then released. We then proceeded to catch another ♀ and band her in the same manner. Then, I came in to wash clothes and shower. Turned in at 2430.

23 June

0800

Worked on some more soil samples (see dipterid study) and also removed the samples from the Burlese funnel and made preparations for collecting 16 more samples, #21 through 36 this afternoon.

1330

Steve M., Tom C. and I left in the





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23 June (cont.)

weasel for trap line area 3A + B. I helped Tom set out the traps for the first time because I needed the pack the traps were in for my samples. I took samples #21 to 28 from the margin of a permanent (?) pond. I think the pond is permanent because the grass ~~growing~~ growing was used like & not like the grasses on the near by dry areas. Samples 29 through 36 were taken from a trough middle between two polygons. Standing water occurred here.

The wind is cold & out of the NWest, at about 15-20 mph. The clouds are low and on occasional snow flakes are falling.

1530 I have took my ~~samples~~ and me back to the ~~bb~~ and then returned to pick up Tom. I set all 16 samples in the Burleso to dig them up a little and also to get out what bones I could. Then I continued going on through the soil samples.

Turned in at about 2230 after reading a paper on *Tyrannos* by Coulson and glancing at one by Freeman on a population study of a *Tyrannos* sp. (?). Both papers look good but I'll have to read them thoroughly before I can tell for sure. Both follow closely what I hope to do with the *Tyrannos* here.





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24 June

0845

Started with soil samples again. Spent the entire a.m. going through 42 samples. (See Diptera study).

1300

Steve and I got out the tangle foot traps and smeared on the tangle foot substance on the boards. Then we loaded the boards into a gravel carry case and then set off for Beach ridge sample area. We took some girl interested in eyeballing snails to show her the nest and then left her there after setting out 6 sticky traps.

1500

Took the south road to central marsh area and Steve collected 4 Pectoral Sandpiper ♂'s. Before leaving for there, ~~we~~ I took feeding observations on the following birds.

24 Jun / Beach ridge near main met. / Pf / 005 / 1500 / pe / SW / 2  $\frac{3}{4}$  A / 4  $\frac{1}{2}$  / 1 / 7 pk's.

I checked the P. Jaeger nest located here earlier, and found nothing. Both adult birds were not observed. The nest has obviously been deserted.

The following feeding observation was taken on the road to central marsh shortly after Steve collected the 4 Pectoral Sandpipers.  
24 Jun / Cent. Marsh / m / 006 / 1500 / d / w /  $\frac{3}{4}$  A /  $\frac{5}{2}$  / 0 / few pk / Tb + pb most (c 10).





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24 June (cont.)

1500 (cont.) we drove on a few hundred yards to the east and then I took the following feeding observation:  
24 Ju / Cent. Marsh / M / 007 / 1500 / F / SW /  $\frac{3}{8}$  A /  $\frac{2}{10}$  / 2 /  
feeding(?)

We continued on to Central Marsh ridge lines ~~the~~ 500 on Beach Ridge. on the way, Steve attempted to collect a Golden Plover, but the bird flew off after sustaining a brief hit! We looked for the bird to the east but had no luck.

At this P.M. the wind has been cold and occasional large flakes of snow are falling.

We stopped at another flock of about 8 Golden Plovers and again Steve attempted to collect a bird - while making full pattern and then flew off! He tried again and the same resulted. Finally, with the 4 shot, a ♀ (probably - had good broad patches) was collected.

We then proceeded on to the 5 kicking eggs running on lines 5 and 6. Two eggs were out on the flat swamp and one in water, so we moved them a short distance to a dry place.

Then, we took single foot tracks 4, 3, 4, and 1+2 to their locations and then left for camp.

1630 We stopped on Beach Ridge where the road crosses it from Central Marsh and





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24 June (cont)

1630 (cont) looked for some small pit falltraps. We found 19 and put them in the ground right side up. They are small paint juice cans with about a 2" or 2 1/4" diameter opening. We then returned to camp to eat. (1730).

1930

Steve, Dr. Little and I took the new net traps to catch and band Baird's Scaup. We tried several nests, and managed to catch 2 birds. These were banded and color banded and then released. The wind was very cold and we all got chilled. We came in at 2200 for the day. Steve made up a list for each Baird, and we are to note where and when we see them whenever we go into the drum area. Forgot to mention, as we came from the second nest banded to the third - which I discovered - (Baird's nest #8 on the map) - we came on a Golden Plover nest. The eggs were high in relation to the size of the birds. I'm going to try to get a good picture of this bird or near the nest.

25 June

0830

~~Later breakfast and then~~ Went with R. Custer to trap lines 3A and B - which had nothing in them and then to lines 9 and 10 by the NAC installation. I found one or snow bunting in a trap at station 8.4 and that was all.





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2.5 June (cont.)

- 1030 Arrived bucket camp and ate breakfast and then I slept for a few hours to 1330. Then
- 1330 I came to the lab. and finished going through the remaining samples to #20 (see Dytiscid study). It appears that the Burlese method of collecting the Dytiscid larvae is efficient only in certain soils and vegetation. For example, in some less mossy <sup>sods?</sup> soils, the Burlese funnels appear to extract all the Dytiscid larvae while mossy sod samples usually have  $\frac{1}{3}$  to  $\frac{1}{2}$  as many Dytiscid larvae still remaining after 24 hrs. in the Burlese funnels. I still need to hand check each sample and will probably do so all through the summer until I'm satisfied with the Burlese funnels' production or dissatisfaction.
- 1730 Went to supper and immediately after wards, T. Koster and I went to the Sunday cinema.
- 2130 Left the movie and then took a wash (borrowed one because a roller - or began fell off of the wash (we had) which didn't run or steer well and went to check lines 3 N and B. Both were empty. on the way, we came across a fellow who was attempting to shoot a snowbird or so it appeared. When I talked to him, he said he was not





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25 June (cont.)

going to shoot the owl, he only shot "shit birds"  
or Jagers. He said they were bad birds etc. I  
saw he was dumb, but we went our way. On  
the way out, he had shot a Jaeger and was looking  
at it. We (Tom and I) reported him to Dr. Patelka  
on our return at 2230. Dr. Patelka found that  
he works here so can tell his boss where  
the Director, Dr. Brown, about his actions. I went  
in at 2330.

26 June

0800

After eating, I began work on the next  
set of soil samples taken from lines 3 and B  
area west end S. of camp. This work consumed  
~~the~~ the time to 1200. Dr. Patelka said he wanted  
to try and find a few Bairds and Semipalmated  
sandpepers in the gravel area this afternoon  
and I said I would also to help. I had to  
make a few minor repairs on the Bow net trap  
before we left. The trigger shaft needed a stronger  
attachment to the cross bar holding the rat  
traps, so I put a second piece of wood  
beneath the one already there.

1330

Dr. Patelka and I left for the drum  
area to find Bairds and Semipalm. The wind  
is cold and occasionally rain is falling. The  
wind is from the N.W. at about 10-15 mph up to





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26 June (cont.)

1330 (cont.) 20 male quets. We set the net at a Baird nest first but the bird would not come in, even though we waited at least 15 min. We decided to move to another nest. This time a Semipalmated sandpiper. The bird just missed getting caught. Dr. Pitelka thought the net hesitated or choked before it released. I need to adjust or remake the trigger mechanism. We tried again at this nest but the bird would not approach again.

1430 We moved the net again - this time to a Semipalmated S. nest on the peninsula. The bird returned to the nest almost immediately and we caught her. Dr. Pitelka banded her and then we moved to a nest marked S.S. on the way that seemed not to be a Baird's nest. I set the trap, but neither of us saw the Baird's again! We had seen by the nest when we approached, but it flew off. The eggs felt cold to the touch but my hands are cold also.

We decided to leave the nest so try another one further south. This nest ~~was~~ is a Semipalmated S. nest. The bird would never approach the nest so we abandoned trying and decided to come in. We both were  
1545 very chilled. Spent the night down reading more literature on Tixenids by Freeman.





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27 June

0800

I arrived at the lab. and started on sample # 24 (see Dystia study). I finished this sample and then made ready to help T. catch pick up his lemming trap lines # 7 and 13. Dr. Pitelka drove us to the area. In the way, we picked up many (owl, quail) and dropped her off near the river. Tom and I picked up the lines. We saw a Buff-breasted Sandpiper on the river and it ran in front of us. It gave us displays on the lake. The last trap of line 10 had a ♀ longspur in it. Line 9 had 4 lemmings in it. We returned after picking up line 9.

1015

I started on sample # 25 (see Dystia study) and went through the remaining of the pond edge series. Next is # 29 - 36 - the trough series. Dr. Pitelka mentioned that he and the others would like to hear my plans and present accomplishments of the Dystia study this afternoon sometime. I'm still on shaky ground about many aspects of the study - particularly concerning the method of approach i.e. sampling techniques. My plans now, and I will certainly expand them as I go, are to 1. Determine the densities - or probably a better term is abundances of each species of Tephritid - L. lemming, L. groenlandica





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27 June (Cont.)

*Ipsule carinifrons*, and their relative abundance ~~of~~ over several summers, as larvae and adults.

2. To attempt to define the "habitat" that each species "prefers" and to what extent other habitats may be used in conjunction with, or ~~with~~ other ~~habitats~~.  
3. To determine the "life cycle" of each species, ~~with~~ with special reference to timing <sup>and number</sup> of instars in larvae, ~~eggs~~ <sup>eggs</sup> and egg laying in the adults.

4. To construct life tables for each species and determine mortality of each stage of the life cycle, if possible. Much more will be said about this later.

1300

Steve and I decided to walk through the drum area and on out to Beach Ridge near the micro. met. On the way, we checked the marked nests of the Baird sandpiper. (These are noted in note books by nest number).

1515

We are presently near line #9 on the flat N. of Beach Ridge and we just located and stalked a Golden Plover nest on which the ♂ had been incubating. We moved on south to the tangle feet grass. We checked the traps with the following being found. The insects were not identified but they are all definitely nematoceran. Traps #1 - 6, Trap #2





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27 June (cont.)

Trap #3 - 8 , Trap #4 - 6 , Trap #5 - 9 ,  
Trap #6 - 2 . Steve scoured the insects off  
the boards with my knife. We noticed that the  
"tangle foot" material is coming off as a film  
or may be dissolving in the water that gets on  
the boards. After checking the traps, we walked  
west around the edge of Family Lagoon to look  
for Sandpipers. We did not see any! The place  
is quite! We decided to head back.

1615 We are now just south and about 500 yds. west  
of the AAC's Buildings, and we have just  
sighted 4 Buff-breasted Sandpiper males doing  
displays. (See pen's account) We watched  
them display for a while and then continued  
on in.

1635 We are about 20 yds (or possibly 30) from  
Bird nest #5 and we just found a  
new Bird nest with two eggs. Both  
birds displayed and called while we looked  
at the nest. We checked nests #'s 5 + 8 (see  
book on resting activity) and also #9 to discover  
a Semipalmated Sandpiper on the nest. So this  
nest is definitely not a Bird! I Dr.  
Pitelka west of me and went over to tell him  
about the Buff B. Sandpipers. He had just  
found two Semipalmated SP nest by walking





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Journal 29

27 June (cont.)

through the drum area. I came in with Dr. Pitelka.

28 June

I came to the lab. at 0830 and got my samples # 29 through # 36 out of cold storage prior to working them over. I decided to try for some pictures of Buff Breasted Sandpipers and what ever in the drum area this a.m. with Tom.

0925

After delays to get camera equipment ready, we went to the drum area about 0910. At 0925, the white-rumped bird on the nest # 2(?) was noted for the incubation records. I took several photos of both Bairds and semipalmated sandpipers. We came to the Golden Plover nest and site - he, in this case since the plumage was dark black and no molt was evident - performed the distraction display with in 1 to 2 feet of us! We both took several pictures. The bird also approached us with aggressive postures while calling very loudly. The pictures should be excellent, I hope! We continued on south through the barrel area and I took several shots of a semipalmated sandpiper that had govt & lavender on the legs <sup>as</sup> bands. I also took several photos of a Buff-breasted Sandpiper, but the bird was not displaying, only feeding. I took some shots of a S. Bunting,





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Journal 30

28 June (cont.)

1 ♀ and 1 ♂. Tom and I returned at 1125.  
1300 I worked on samples again until 1515 and  
the Dr. Pitelka and I went onto the drum  
area to see if the "buffys" could be photographed.

Dr. Pitelka was planning to collect one or two.  
I kept records of the birds incubating  
birds for the study. I walked to the sand on  
the barrel area next to Family Lagoon, but  
saw only 1 pr. of Buff-Breasted S. which  
Dr. Pitelka stayed with and watched while  
I went on to try and locate some activity.  
I saw no more Buff-B. at all. I checked  
the lines - rather the birds nest on the east side  
of the sediment line on the way back in.

At our usual evening bar, I gave a very  
brief and incomplete resume of my plans for  
the chironomid work and also on what little I've  
found thus far. Dr. Pitelka was content with  
the ideas and work although he stressed, again,  
the need to work with chironomids as well as  
Tupulidae which I feel is an essential point,  
since chironomids are so numerous in the  
samples. To overlook them would be passing  
up a chance to examine in more detail this  
confusing(?) group found in Great Barrow. There  
may be much less confusion in the taxonomy of the  
group than presently held.





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Journal 31

28 June (Cont.) The weather today started out by clearing all out the southern slopes of clouds. A cold wind from the N and N.W. blew most of the day. Later in the afternoon, the clouds moved in once again at light rain and snow fell at 2000. Larger flakes were falling at 2150.

29 June I spent the AM completing the samples collected 23 June and then cleaned up the desk & work area.

1340 I made the nest check of the Bairds' nests and was unable to get the number three nest until on the return then I managed to get a good look at the bird. The weather is not good today. Low clouds are all around, occasional snow and rain is falling. The clouds keep moving and obscuring various parts of the of the window. The temperature is probably about 38°F or so.

1500 After the nest check and recording the information in the nest check book, I went out to the Band area and looked around for a while and took this feeding observation:

29 Jun / Band area / Pf / 009 / 1500 / pe / SW / 4/08 / 1/0 / of pk.

The bird flew off after a few moments so I could get no more information.

I returned to the lab. and Steve MacLean helped me cover the 6 emergence cage with netting. He used a starting gun which worked





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Journal 32

29 June (cont.)

very well. The vases were covered so that one complete side could be opened to pick up insects inside the vases. The vases are 1 yd square so I'll have to do some counting in order to put my data on the basis of a meter square but this will be no problem. After completing the vases, we went to supper.

2130

The nest check started out well in pretty poor weather. It was raining and very cloudy at first but as the rain quit, the clouds dissipated or moved on and then it was very sunny. I checked all nests but #1 and #5 which I couldn't get because the birds flew from the nest long before I could get close enough to follow them.

30 June

0845

I went out to check the nests. It is clear and fairly warm. It took a while to get all the birds this time but I kept at it until I lost the last bird at 1020. This was the bird on nest #3. I returned to lab and made plans for this afternoon and setting out the emergence vases.

1300

Steve went to get two max-min. thermometers to make temperature checks inside and outside





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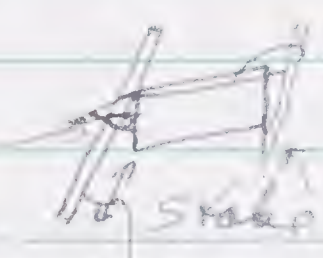
Journal 33

30 June (cont.)

1300 (cont.) of the emergence traps to see if the traps affect the micro-environment as far as temperature goes. I made string catches on the doors of the traps while Steve prepared his Vargle foot traps, which will have to change to Jey also. I decided to place three traps at the Beach Ridge Vargle foot trap site, and three at the Beach Ridge (Central Marsh area) site.

1505 The traps here at Beach Ridge are set out. I called this line #1, and the traps on #1, 2 and #3 running from S. to N. The traps were numbered on the top piece. I took several photos of the traps and also of the max-min thermometer. The first reading of these, after having been in these positions for about 15 minutes was  $38^{\circ}\text{F}$  inside, and  $38^{\circ}\text{F}$  outside. The thermometers are mounted  $4\frac{1}{2}$  ft 50'.

Thermometer  
under here



suspended by string. The distance from ground to the thermometer is 2-3 inches.

After picking up the 6 Vargle foot traps, we proceeded to Cent. Marsh - Beach Ridge Vargle foot site to set out line 2 - traps #1, 2, and #3. On the way, Steve shot 2 Golden Plovers. At the Vargle foot traps, I set one emergence trap out in the marsh in standing water. The next one on the





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Journal 34

30 June (cont.)

sloping part of Beach Ridge toward the marsh, and the third in a trough on top of the ridge. One larger plot, #34 had an adult Typis coarctatus (I guess it is Typis coarctatus). The insect was still alive - Steve said it was a ♂ because of the wings. I have reduced the number.

I forgot to mention the location of the emergence traps at line 4/ on Beach ridge. Trap #1 is on a flat, wet area, #2 on a dry flat area and #3 on a dune top. (For a full description of vegetation, etc. see Diurnal Study.) After setting out the traps, we started back to ARL and also to check the pit fall traps on the entrance to Central Marsh. We stopped near three Pectoral Sandpiper and Steve asked me to shoot them so I did all three with one shot but one got up after a while and flew off before we could get to it. Steve had walked past it to pick up another bird. So, I only got two, I guess. We checked the pit fall traps, and one had a P. gracilistylus adult in it - according to Maclean. We kept it for examination later. We returned to camp at 1715.

2100 I checked the nests. The weather is fairly warm and has been all day. The wind is now very strong from the East. I got all but nest #8 tonight.





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Journal 35

1 July  
1000

Prepared all of my sample sacks for gathering some more samples this afternoon. I decided to get 16 samples from Central marsh and 8 from the Beach Ridge area near Central Marsh samples. I also prepared to check the emergence traps that were set out yesterday.

1320

Had to coordinate use of the vessel with Tom. C. so I went to lemming lines #4 A and B and helped him set the traps on one line. We finished this at 1415 and then headed for the Beach Ridge micro net area.

1430

Arrived at the traps. The temperature on the outside thermometer was  $40^{\circ}$  maximum, and  $35^{\circ}$  minimum. The thermometer inside the traps read  $40^{\circ}$  max and  $30^{\circ}$  min also. Trap #3, 2 and 1 were difficult to collect insects from because of the vegetation they cover. No Tephritids were found (see Diptera study). We left the area after checking the traps.

1600

We arrived at the Central marsh area. We checked the emergence traps and found no Tephritids (see Diptera study). We took <sup>wet area</sup> samples #37-45 in the ~~standing water~~ 75% vegetation area of central marsh near the trap #1. The samples #46-52 were taken from standing water areas of central marsh,





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Journal 36

1 July (cont.)

and samples # 53-60 were taken from the dry, south slope of Beach Ridge. After sampling and checking the emergence signs, we returned to camp and supper.

1945

I went out to check the nests. I managed to get them all quite early so I came back in and turned early.

2 July

Got up late and went to breakfast. The day is clear and warm. The temperature at the ARL building is 52°F! I went out to check the Baird nest at 1000. Nest #1 had hatched and no young were to be found. The others are probably near hatching soon.

As I left the Baird area, two redpolls flew in and hte in front of me on a barrel. Both flew off when I moved toward them.

1445

Tom C. and I left for Central Marsh line # 44 and B to set out the lemming signs. Both lines were on very wet, soggy ground. It took an hour to set the signs and then we returned. on the way, we plotted Dowitcher, a peritral sandpiper, and a red backed sandpiper.

1930

Don W. and I walked out to the Duck camp East and north of the run way to get some duck heads. Saw several small flocks of Eiders on the way.





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Journal 37

3 July

I spent the A.M. working on soil samples #37 - 40. Also prepared to go to the field with Steve M. after lunch to check emergence and tangle foot traps. I attempted to get the gas engine powered vacuum sampler going but couldn't do it. It needs cleaning and adjusting. We plan to take it to the shops this P.M.

1330 Steve was busy until 1400 so I tried to start the engine again, which I did, but could not keep it running. I prepared for this afternoon's sampling.

1455 We arrived on the first area and I checked the emergence traps while Steve changed the tangle foot traps and set pitfall traps. The weather at this time is - low clouds but still visibility is good - 1-2 miles. A cold wind is coming from the NE. Temperature is 38°F at trap #3 - line 1. I helped Steve finish setting the last of the 10 pitfall traps and then we moved on to Central Marsh. On the way, I took this feeding observation:

1a/

3 Jul / Central Marsh / 010 / 1500 / ~~1~~ / sat / 3/1A / 9/2 / 0 / Pb-jb about equal. Steve took feeding observations on several plovers here. We continued on to the traps. I checked the emergence traps and only #3 of line 2 had *Tripulidae* - two *Reducta hemata* or





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Journal 38

3 July (cont.)

adults. After changing the Xangle foot traps, we came back to the spit point from central marsh at Beach Ridge and checked the pit fall traps there. We found a number of *Tyrannids* - both *Tyrannus* and *Helminthophila* and several *Staphilinids* and *gasteros*.

1900 We arrived back at the lab.

4 July

I got up at 12:00 and came to the lab. to work over ~~some~~ soil samples. By mid afternoon, I had completed the first 16 samples. I quit for the day on these. I still have 8 more to do tomorrow.

2030

I went with Tom. to pick up line 54 and B and then we went to line 748 to check them. We found no lemmings in either line. Returned at 2230.

5 July

Spent the entire day doing samples. I finished them all in the afternoon. At 0900, I checked the nest. only #2 and 5 are going, and I could only check #5 because of the *Sempal*. flying around. I manage to see both birds finally but couldn't tell anything about which was incubating at all so I left. First, *Stola lina. Joeger* on the area.

1900

I did the sticky boards for Steve - This took about three hours. Then I went to check the nests again.





Beamer  
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6 July

Went out and checked the nests again at 0830. The day is warm and sky clear. Slight breeze is blowing from the N.E. Many chironomids and some tipulids active on the tundra. I came back after the nest check and prepared to go sample the emergence traps, take more soil samples, and put out sticky traps.

1330

Steve M. and his sister and I went to Beach Ridge area at Mine Mt. See chironomid study for results of trap checks. I took samples #61-69 - see chironomid study for details. Steve collected Tipulids from the can traps and the ground. There appears to be quite a few around now. I had some more traps, but Steve's can trap had 4000 adult ♂♂! We continued on over to site #2 to check traps. See chironomid study. I took samples #70-80 here. We returned at 1645.

2100

I went out to check the nest again. A very wet, thick fog has rolled in. Visibility is about 100-200 ft. I got right up on both bands so could check the nests easily. Turned in at 2445.

7 July

Got up <sup>late</sup> and then went to the lab. Checked the nests and then returned to skin the Parasitic Jaeger. This took until about 1430 since the bird was so fat and had to be degreased in gasoline and detergent. Prepared the soil





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Journal 40

7 July (cont.)

samples for going through for Diptera larvae.

8 July

Got up late. Worked on the P. Jaeger until noon.

1300

Dr. Pitelka, Steve M., Tom. C. and I took the aerial interval insect sampler designed by Steve out to the Beard Ridge Micro met area and set it up. It has no nets yet but they will be made soon and then put on. The unit is to face into the wind (open net end) and sample insects at 4 or 5 intervals up to <sup>ca.</sup> 6 feet. It appears that pins will be necessary to keep the nets facing into the wind since each piece is rather stiff. Why each sampling section is separated by 60 in is difficult to see, since the wind at the 0 to 6 foot interval will surely blow from the same direction.

1500

I washed the P. Jaeger skin in white gas again because it was still greasy and then attempted to dry it. I didn't have time to finish it so I put it in the refrigerator until tomorrow.

9 July

Got up late then went to breakfast. Read the 12 page notes for S.M. and then re-gassed them for return to the field. I also prepared the vacuum sampler for collecting emergence data.





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Journal 41

9 July (Cont.)

1430

Tom Custer and I arrived at Beach Ridge, Micro met.  
area to sample. The weather is a slight mist.  
Temperature about  $36^{\circ}\text{F}$ . Very slight wind. The  
vac. sampler did not prove to be nearly as handy an  
instrument as I had hoped it would. It is too  
hard to handle and collecting is very time consuming  
when one person attempts to operate the machine.  
Besides, the sampling end won't fit in the tubes.  
I gave up on the thing after several tries. See  
Diptera Study for results of samples. After  
reloading the sticky boards, Tom and I continued on  
to Beach Ridge, central marsh area. See Diptera  
Study for this date also. We ~~then~~ saw a large  
flock of Long Tailed Jaegers sitting on the ridge  
as we drove to the sample area. They appeared to  
be eating insects but I couldn't tell for sure.  
They flew as we approached.

We returned to the lab. at 1645.

10 July

Today a typical doggy day. No one here at 0815  
when I came back to the lab. after breakfast.  
I worked on soil samples all day. Talked with  
Dr. Pitelka about sampling this area on a  
transect basis. Sounds good, in fact, this is  
the first real interest I've felt for this  
project. I hope I can stir up more interest  
because this project too promises as a good  
one.





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10 July (cont.)

1330

Dr. Pitelka and I left for the Beach Ridge micro-met sampling area. On the way, a Banded Sandpiper flew up and gave the Distraction display. We climbed out of the weasel to investigate and Dr. Pitelka spotted a young Banded about 15' from the road. We caught it and I photographed it several times. The way it walked indicated that it was very recently hatched. We continued onto the plot and set up a transect line. (See Distraction Study) We sampled this and on line II - we found a different species of trilob. It is a large gray-brown specimen. We also found two of these copulating (♂ of course!) We left at 1630 for the lab. I'm very pleased with the transect method and I plan to repeat it a few more times at least before the imagae ends. Weather cloudy - slight wind from NE. 38-39°F.

11 July

Spent the A.M. doing soil samples. Dr. Pitelka volunteered to do some stubby bands so that will help out there. Tomorrow is the day to chase them, so they'll have to be done by then.

1400

Went out with Torey Dr. Pitelka to help set lemming lines #1 & 2 - 9 & 10. On the way, we saw 3 Hudsonian Curlew's near micro met. (See sp. account). We set traps, and then examined some tundra flowers at lines #1 & 2.





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11 July (cont.)

1530 We drove back to line #9x10 to set the traps. The mosquitoes are quite bad here. We returned to lab. for supper.

I spent the evening doing sticky boards.

12 July. Got up at 0800 and ate. Stan did 500 examples until 10:00. and then did sticky boards. At noon, two remained to be done.

1300 Dr. Pitelka did the two boards while I cleaned and re-gassed the boards.

1430 We (Tom, I, Dr. Pitelka) left for line two first. The weather is warm, almost completely overcast and the wind is from the East at 15-20 mph. We changed the sticky boards and I checked the emergence traps and then we looked around a little. We saw no birds, no noise - amazingly quiet! We drove on over to line I and changed the traps here. We saw a flock of Lesser Sandpeers and several E. Plovers also. We returned at 1645.

2030 Dr. Pitelka and I discussed the dytiscid project and I told him I didn't want to go on with it.

So, I'm now going to continue work but I'll also be helping Steve and Tom more. I think this I will work out fine. I can continue on this summer and think about other projects as I go. Dr. P. said projects could develop here or at Berkeley. I'll see when I get there. It was a good discussion and I know where I stand now.





Beaver  
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Journal 44

13 July

0800

Got up and came to the lab. The weather is beautiful - about 50°F - slight west breeze + clear sky. I went out to check line #1 + 2 - 9 x 10 since Tom C. wasn't up yet. On the way, I took several pictures of a young Semipalmated Sandpiper and a Red-back Sandpiper. On the first line - #1, number 5.2 had a ♀(?) Golden Plover caught by the wire in a trap. The bird didn't move until I released the trap wire. I thought the bird was dead. As soon as the wire was released, the bird ran off and then flew. It obviously wasn't dead. I picked up a Lemming on line #2 and then headed back to the weasel. I photo'd a snowy owl on the way. I checked lines #9 + 10 - both yielded nothing. I returned to the lab. at 1300.

1400

Dr. Pitelka and I went to micro. met. Beach ridge area and established a transect from S to N. running from saturated and standing water habitat to dry, eroded polygon dunes. We ran this line for 63 stations. (See Diptera study). Returned at 1700.

14 July

Today, I worked on sticky traps in the latter part of the day. The first part of the AM. was spent checking lines #1 + 2 - 9 x 10 for Tom. I found a Golden Plover in trap 5.2 of line I. I thought the bird was dead, but as soon as I ~~tried~~ let the bird loose from the trap, it ran off and then flew. I guess





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Journal 45

14 July (cont.)

I should have held it down. Steve could have used it for his metabolic study. I finished checking the lines by 1130.

1330

Spent the afternoon working on sticky boards and discussing the best way of approaching the reading of the boards. It was decided that the present method (by S. Maclean) is too slow mainly because no one is able to accurately place the insects into the designated groups. (Including Maclean) So, a new grouping of *Chemoidea* - large & small, and brachyura will be used. This will increase the accuracy and reduce the laborious process of reading the boards.

Also, more transects were planned since they give good data on <sup>micro</sup>habitat selection, seasonal and relative abundance of adult *Staphylinids*. This is a good idea.

1900

We prepared the nets for the aerial traps designed by Maclean and erected last week by all of us on the Beach Ridge micro net area. We (Tom, Steve and I) placed rubber tubing in the lead edges of the nets so they could be easily fastened to the net frames. Steve, Edna and I set out for Central Marsh to collect birds, take soil samples, and put up the nets. We ran into a flock of G. Plover, Pectoral sandpiper, and Red-backed sandpiper and took 3 G. Plover. I got two of them. Furthermore, about 400 G. Plover and





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14 July (Cont.)

of the DEW line installation, we came across a large - 40-50 bird - flock of Pectoral sandpiper. We chased them around on central marsh without getting a shot. The flock flew close by once so I took one out of the middle of it. Skere and I walked on the Beach Ridge toward the DEW line installation. I shot a Pectoral at close range and then another further out that was sitting in a small pond. Further on, I shot a Red-tailed Sandpiper and then 3 more Pectorals. We quit at this and returned to the house. Skere forced formula down the throats of all the birds to stop digestion. We then went over to mine net and set up the wind nets. The apparatus works well. Looks like the bearing is rusty, so grease will be needed. We returned to the lab. at 2230.

15 July Skere and I worked on the lost sticky boards and then began re-gassing the boards. We made plans to take a voc. sample and possibly run a transect for Hyndes also. Tom will set flying traps.

1430 We left for central marsh and dropped off Toms and his traps at line 9 and 10 in central marsh and then we dropped off two more sets of Toms traps at line 5 and 6. We changed sticky boards and checked the emergence traps. On the way, we found a Red-bellied gourd with 4 young. I took several pictures. The weather today is the best we have had. Temperature is





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15 July (cont.)

about 58°F - very clear sky, light wind. The tyrulids seem to be responding to these conditions since the tundra is crawling with them. Since I set up the vac. collector, and sucked up large numbers of them. Steve had collected them while I ran the vacuum. The engine ran out of gas so I went to hand collecting also. We left for the line #1 of stinky banded engine types at 1630. (See *Diptera* for later). We completed changing the stinky bands and checking the engine types and can types. The aerial net for insects, but we didn't change it. We came into the lab at 1730. Went out to get Tom and then we went to supper.

1930

Steve, his wife and I went out to central marsh to run a Tyrulid transect. The sky now is slightly overcast and the temperature is definitely dropping. Tyrulid activity was low. On the way, we saw a centlew sandpiper (see sp. account). In central marsh, Steve collected 5 centlew sandpipers and I took feeding observations - as below

15 Jul. / cent. Marsh / a / 011 / 1400 / f / w / 2 1/2 A / 3 1/2 / 0 / pk - 2 Ado + 4 young.

15 Jul / Micro Met. / a / 012 / 1700 / f / w / 3/4 / 1 / pk - took 3 *Tyrula* while watched.





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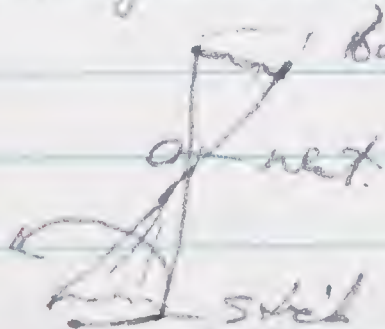
15 July (cont.)

All further feeding observations will be in section of field book under "feeding observations". We returned to the lab. at 2130.

16 July

Got up at 0730 and came to the lab. The fog is right down on the ground and the temp is about 35-40°F. A fine misty rain is falling. Steve M. came in and wanted to catch birds - Plowman particularly, so I made some loop traps while he and Tom went out to trap and catch some. They returned on time later with no birds. Steve and Tom went out and took down the mist net in the same area and headed out to FFA to try and catch a bird that Steve knew of out there.

1530 We arrived at the ~~nest~~<sup>area</sup> to discover the bird on the nest and incubating three eggs. We set the loop traps around the nest and then set the mist net on the opposite side. We walked from the nest to see if the bird would come in. She did - 3 times and was never caught in the loops. Next we tried to use the mist net. The bird came to the eggs and settled, by my stick slipped out of the net when I tried to throw it over the bird. The net wasn't placed correctly either, so we placed it like so.







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Journal 47

16 July (cont.)

This time, the bird was catted and we returned to the lab. after making a few adjustments in the vessel starter. We force feed the Rose and a Pectoral Sandpiper that Torre captured in his trap line. Steve put both in a box then.

2130 Tom and I went out to line 700, 500 to check the traps. Many were set off and 4 or 5 birds were caught also. We returned at 2230 - wet and cold. It has rained all day.

17 July Came to work at 0800. Steve has many plans for afternoon work, so I spent the AM on my notes and on the Eumecurus funnel samples. (See Diptera Study).

1300 The sky is starting to cloud up now and the temperature is dropping. Looks like rain. Steve and I left for central marsh. On the way, we stopped at the Golden Plover nest at 4415. The nest is apparently active (young somewhat) because the adults are very excited by our presence. We went back to the vessel but the truck came off in a big ditch so we walked on from there. We went to central marsh and took several feeding observations on sandpiper. (See Feeding observation section)

We stopped and looked at the Golden Plover nest with 4 eggs on Beachridge. It looks like these birds would be easy to





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17 July (cont.)

capture with the mist net. We made tentative plans to try this, this evening. We then continued on back to the first S. Plover nest at HACS and tried to locate the young but without success. We got the shotgun and collecting bag out of the vessel and came on in to the lab. on the way, near the Acadia row, we came across a flock of Semipalmi, Bonap. and white rumped sandpeper. Skene collected a Semipalm and a white rumped. Then we came on into the lab. It has rained continuously all afternoon and looks like it will continue to do so.

1930

Skene and I assembled the bird catching gear, the mist net, stakes and handle, and headed for the Plover nest near HACS. It is still raining and very chilly -35-36°F now. After several attempts, we located one, beautiful downy young. I was very much impressed by the very bright golden color of the back neonates (see sp. account.). We were going to tether the chick but since he sat still, we set the net up over him and then Skene returned to the vessel while I waited with the net. The first bird came in within 2-3 minutes and I caught her easily. During the waiting interval the chick preened continuously. We reset the





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retard decided to wait out the other bird, if we could. The chick is still fairly dry and not too cold. The other bird was too wary and wouldn't come in. The chick stopped calling after about 10 minutes so we quit. The chick was almost dead from cold. I held it in my hands and breathed on it for 5 minutes before it began to peep again as it had before. After it was active, I placed it on the ground and we left. I think the bird came right in tonight.

2230 We continued on to Central Marsh and set up the net over that nest and waited. Steve operated the traps this time and captured the bird. We returned to the lab at 2345. after taking 18 soil samples opposite the nest (plowed) at HACS. We put the samples in the punch and then cleaned up and turned in.

18 July Spent the AM. doing sticky boards (asbestos) until 11:00! We finished these by about 1430 and then Tom, Steve and I headed for the first line at Primo Wet. I sat out the sticky boards while Steve showed Tom how to take feeding observations. Tom also collected some Redback. The fog is very thick now - about 100 yds (at most) visibility. It's not cold tho. about 42°F. I checked the smoggy days while Steve collected his can samples. Then after we





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18 July (cont.)

Took down the wind net, removed the 3 game bars and set it back up. Steve wants to leave the traps work them over. We also took the nets with us. We continued on over to Central Marsh area and changed sticky boards there and checked the emergence traps. We returned to the lab. Steve checked the flower nest along the way and the other bird (of the pair from which one was removed the previous evening) was incubating. We returned at 1815.

2130 I helped Steve count Pipula and Pedicia from can trap samples taken earlier today. Tuned in after this.

19 July Planned to go into the field this afternoon. For the AM though, I helped Steve separate out ♂ & ♀ Pipula and Pedicia that were collected in cans during the week he was away.

1300 I prepared to get more sod samples. Collected all the larvae from the samples in the Burleso now (See Dytisc study). Tom, Dr. Pitelka and I left for line 4A-13 at 1400.

I wandered off to make feeding observations while Tom set his lines and Dr. Pitelka went to Footprint Lake. I returned at 1600 to help Tom since I saw only a few birds. We took sod samples (16) and returned to the lab. Steve and I placed the samples in the Burleso and





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19 July (cont.)

then went to supper.

20 July

Got up and ate. No one was in the lab. early so wrote notes. Steve came in at 0845 and we started on the sticky boards. I counted the II set. This took until noon. Steve has decided to run habitat analysis transects which will give an idea of the total area. Each transect is 1 kilometer long and currently planned are 47.

1330

Steve and I made ready to go. We chose at random to do a line from the north extension of North Meadow Lake west to North Slough south of Koney Buckset Lagoon. Dr. Pitelka, Steve, and I started the line by walking 5 meters (by pace) and then making a habitat analysis in the same manner as a feeding observation. We took 100 points in this manner, each trying his best at it. The 5 paces was abandoned for 10 paces per case of sampling. We did 50 ~~paces~~ points and completed the line at 1715. Steve and I planned to do 4 line/day for the next six to complete the run. Notes of interest on the way - Pitelka found a very young leucorhæus (?) sandpiper that was apparently abandoned. Dr. Pitelka collected it.

The day was cold and windy. The wind was out of the west and the temp about 40°F. The sky was overcast to clear throughout the day.





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21 July.

0830

Steve M. and I rode with Tom out to the FAA buildings area to run habitat lines. We started on an E.-W. line from "Honey Bucket Lagoon" to a point mid-way (on the west side of the road) between the Beach Ridge and the road. Then, we headed south to complete another kilometer transect.

We then split up, Steve going to finish the first line on the East side of Honey Bucket and then head south - I took the east line closing the square and then turned north to meet Steve midway on the line to close off the east side of the square. This took until noon. We closed within one meter on the last line. Tom. C. arrived to pick us up while we were still working on the line so he took feeding observations for several Redpolls and the like in the area.

1300

Steve and I cleaned and re-gassed the sticky boards, then gathered material for doing vacuum sampling, can trap collections and establishing new can traps at Cent. Marsh, and samples and re-establishing of the wind net. After getting all this gear together, we left at 1430 for line T. on the way, the weasel broke a "boggie" so that had to be fixed before we could go on. We vacuum sampled while we waited. The wind is from the west





Beemer  
1967

Alaska

Journal 55

21 July (cont.)

and has been all day. The sky is overcast but low clouds are staying to the south of the area. A few low clouds have moved through in the past few hours. After the bogie was repaired, we went to the T and replaced the sticky traps, checked the emergence and can traps and then put the sprayers and nets back on the wind net stand. The output is working good now. The sprayers hold the weight of the upper stages off the lower ones so the wind can turn them now. We left for central marsh at 1730. There we changed sticky traps, set a row of can traps, checked the emergence traps and collected soil samples - (see diplos study). On the way back, a fog rolled in and a large flock of Eiders flew low over us. It was an impressive sight. Steve hurt his back so we won't be doing any "night" work in the field today.

1930 I came back from supper and put the soil samples in the Berlese funnels.

2200 Tom C. came back from checking the live and had a red back sandpiper that had been caught in a snap trap. Its leg was injured but the bone wasn't broken, so it ~~will~~ may make it. Turned in at 2300.

22 July Got up at 0800 and went to breakfast. Rather cool this AM - 38°F or so, but relatively clear.





Beaver  
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Journal 56

22 July (cont)

Spent the AM. in the lab. Steve was interviewing 2 people from the state (Boyd's - John's Hackers). We plan to run transects this afternoon.

1330

Steve, the Boyds (Mr & Mrs) - and I left for Central Marsh to run at least 2 (each) transects. On the way we looked at a Snowy Owl which the Boyds had wished to see. It is windy and chilly  $\approx 36^{\circ}\text{F}$ . Steve and I each ran two transects. Our closing point was not too good this time, but not far off - about 100 meters or so. We returned to the weasel at 1630 and then came back to the lab.

23 July

Did transects with Steve in the AM over by ~~the~~ Woth creek area. We returned at noon. I helped Tom bring in lines III A and B in the PM.

1730

Steve and I went to Micro Wet area to run some transects. I went due south and he west. I took 16 soil samples along the shore of N. Meadow Lake while Steve completed a short line between the lakes. It is windy - from NW. and cold  $23^{\circ}\text{F}$ . We completed our transect work and returned to the lab. Noticed on the way in that the wind had blown off one of Steve's nets on the top of his wind net system.





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23 July (cont.)

When we arrived back in the lab, we put the seed samples in the fumels and discarded the old ones.

Dr. Pitelka leaves tomorrow so I told both Steve and Steve of my plans to leave 11<sup>th</sup> August.

24 July

Dr. Pitelka left this am. We prepared to set out the next run of largefoot and deer in the field by 10 AM. We changed the large foots, checked the con traps and snare traps at both sites I and II. Also ran some transects along Central Marsh Beach Ridge area. In the afternoon, we had trouble with the weasel. We took vacuum samples of air. The weather today is fairly clear but windy. Both Steve and I are coming down with colds. I turned in early.

25 July

Feel pretty bad today. Steve and I left to do some transects of Wallschlag slough.

The weather is clear and warm with a slight breeze in the AM, stronger in the afternoon.

We completed 2 transects each and then returned. We had to detour the slough because the tide came in. It took us about 45 min. to get





Boomer  
1967

Alaska

Journal 58

25 July (cont.)

in for lunch. We did transects in the afternoon also. This cold is about to put us both out. I slept about 3 hours this afternoon and went to bed early also.

26 July

Really feel bad today. Did transects all day. Weather clear and warm. Windy all day long.

Am transects were over by Elson Lagoon. I saw two Arctic Loons there (see yr. accounts) Steve and I finished pretty close this time. On the return, so the vessel, we found a recently dead ♂ King Eider which we picked up for a study skin.

This afternoon will be the last transects. Only 2 left to do and these all in Central Marsh. Steve, Dave, and I left for Central Marsh at 1330. Tom collected birds while Steve and I ran the transects. We returned to the vessel at 1530 and took 16 soil samples. I feel like I'm ready to collapse. This has been a bad cold so far. We returned to the lab at 1630. I went to bed early.

27 July

It's raining this Am. and cold. Steve and I prepared to take vacuum samples and change the study boards. We have a new set of boards to put out this time. The old ones are all stuck up with mud that





Beaver  
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27 July (cont.)

went came off. We finished packing and organizing all the bands shortly after lunch and then left for site C. Here we excavated 1 meter square areas (3 of them) on the Bush Ridge near the windnet system. It's raining now again. We changed the sticky boards and checked the can traps and then the trapline traps. We left for site D and did the same. We returned at 1200 fairly well soaked. Very cold is much better today. Hope it ends soon. I turned in early.

28 July

I slept in today and I feel much better now. It is raining again today and very foggy. Temp. about 40-45°F - not real cold. Skene and I counted *Dytiscus* larvae from the acid samples all day. The material is from 3 sets of acid samples. I spent the PM working on the Parasitic Tanager I collected almost a month ago now. It should make a good skin, I hope. I had to borrow Edna M. hair dryer to dry the feathers since the air in the main lab was off.

29 July

I finished the P. Tanager in AM. It came out fairly well. This morning has been foggy and cold  $\approx 34^{\circ}\text{F}$ . By noon, it appeared to be lifting a little. We planned to go to the





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Alaska

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29 July (cont.)

field this afternoon.

1330

Left for Central Marsh to take sod samples, pond edge samples for large red chironomids and take feeding observations. The sky is overcast but not low. A cold wind from the NE is blowing about 15-20 MPH. We walked east toward Elsen Lagoon out on Holmes Marsh looking for a Plover that could have young that we could catch for Steve's needs in his Fairbanks project. We saw several small flocks but no young.

We returned to the weasel and took 16 sod samples with care and then took a pan full of disturbed pond edge material to look for large red chironomids. We were able to find the larvae by stirring the mud with our boots because they float to the surface when this is done. We returned to the lab at about 1630. Steve and I discussed a schedule for sod and pond edge samples. We decided to get sod samples once every six days and left the pond edge samples undecided.

30 July

Counted the sticky boards in the Aar and re-gassed them preparatory to running them this P.M.

1330

Steve and I worked on the boards some more. We left to change them about 1430. The temperature is about 40-42 °F, light wind and overcast sky.





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30 July (cont.)

After we changed the boards, we took some feeding observations on a Red Back, several plovers, Pectoral and a L.B. Dowitcher. Steve took some photos of some Semipalmated Sandpipers and I took a photo of an Old Squaw. We then went to hire it and changed the large foot there. On the way, we saw several flocks of Semipalmated Sandpipers in Central marsh. I collected 5 of them for Steve. The birds were feeding on the road. On our return to the lab., we picked up 8 soil samples along pond edge and trough bottom at the Beach Ridge crossing to Central marsh. We saw two Parasitic Jaegers working together to catch a Semipal. (see p. account) but they failed. We returned to the lab. at 1730.

31 July

We changed 8 of the Central Marsh soil for the 8 pond edge & trough samples taken yesterday. Spent part of the A.M. writing notes.

1330

Steve, Tom, Don Kergas (<sup>assistant</sup> student of Dr. Skow) and myself left for Nuvuk in the vessel. On the way we stopped at the Duck Camp and I took several photos here. We then continued on with two of Steve's wife's brothers being added on. We drove only a short distance - 1/8 mi. - when we saw a large flock of Sabine Gulls. We approached to take pictures. A wounded King Eider ♂ was on the shore near the S. Gulls, and he swam out into the water. Steve shot him twice and





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3/July (cont.)

The Eskimo boy went out and got him. We took several pictures of the S. Gulls, of which there was a large flock (30-40 birds) and then drove on towards the point. We saw many ~~old~~ <sup>♂</sup> and young R. Phalarope, some Red backs, and Semipals along the way. We came to the first ford and saw a large flock of Breiter Terns. We took pictures and noticed then a Kitty waker with very dull plumage sitting on the ground, apparently sick. We all took pictures very close and then the bird flew off! Steve collected it and we decided it was a young Kitty waker. We came upon another bird sitting on the beach the same as the first and Dan Kargos captured it by hand. The bird was healthy, just lame. We let this bird go. We couldn't cross the ford because of the tide, so Dan, took some plankton samples while the rest of us looked at some large Jellyfish that had floated on the beach. Some were almost 1 foot in diameter. We decided to leave. Arrived back at the lab. at 1630.

1 Aug.

Tom and I left for Elsan Lagoon at 0845 to look for birds. We drove through Centrat Marsh and then turned N. West on a road marked





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1 Aug. (cont.)

"wargon trail". As we approached The Wier, a boggie broke off, the same one fired earlier. We abandoned the vessel and walked the shore of Elson Lagoon. We saw Arctic Loons, but all were too far out to see well. R. Phalaropes & young fed along the shore. We came across a family group of Ruddy Turnstones and both took several photos. Further on, we came to an Eskimo camp. Hay(?) had shot a Yellow-billed Loon. The bird was much larger than the common Loon but very similarly marked. We decided to walk on across Holmes Mess back to the lab. We saw 3 Black Bellied Plovers, but couldn't get close to any of them. We also saw several Red Backs. No large flocks of shore birds were seen. We arrived back at the lab at 1230.

1530

Steve and I went out to the reeper row to collect large red chironomid larvae. This was done by stringing up a Ford Bottom and then collecting the larvae in a small dip net. While doing this, Steve told me of the set up for my going to Meade River, Almont and Cecil Thompson starting this week. He mentioned the possibility of my looking into a project involving the Red, Norton and Wilson's Phalaropes and





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1 Aug. (cont.)

predator-prey dynamics. He said I would have about 2 days at each place and would start at Meade River with Tom. Next will be Umiat with Steve and last, see Thompson with whom I'm not sure. Steve said Northern and ~~winters~~ Red occur together at see Thompson. The project sounds interesting. I hope I can get some insight on the problem on these trips. We returned to the lab. after collecting a good number of larvae. I counted my collection - 372 large red chironomids.

2 Aug.

Steve said we may leave this P.M. or tomorrow AM for Meade River. I counted and cleared the large feet and then checked the sod samples. We change study boards this afternoon and we plan to pick up a few sod samples.

1300

I asked Steve if it would be possible to stay longer at any of the places planned and he became rather upset. Apparently he is rather touchy about the trips. I dropped all discussion of it. We went out to change the large feet. It is warm, a south wind is blowing and it has brought mosquitoes with it. A very light rain is falling. Temp. about





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2 Aug (cont.)

52-54°F. We changed the boards at site I, checked the wind net and can traps and then left for the second line. We changed sticky boards 5+6 - checked the emergence traps #3 and then took 8 sod samples from central marsh. I asked Steve about the flies and why he became angry when I asked about them and he is on edge about them for personal reasons. We left it at that. We returned to Beach Ridge crossing and took 8 more seeds from pond edge and knights. When we were almost to the main road, the truck slipped off the wheel, so we walked in. I took several feeding observations on Red backs and seriols in the ponds by Deepa row. We returned to the lab. at 1630.

3 Aug. Tom and I prepared to go to Meade River some time this morning. The clouds are low and it looks like they are settling in.

1445 We finally left for Meade River. The fog had rolled in and prevented leaving earlier. We saw several large herds of Caribou on the way down. (200-300 head in each). We arrived at Meade River at 1530 and no keys to the buildings had been sent along so we will have to wait to eat until the pilot (Shepard) brings the keys back. The bunk house was open so we set up in there. We decided





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Journal 66

3 Aug. (cont.) Meade River

To go west to the site of the original Eskimo village while waiting for the key to return. We followed the river along for a ways. The vegetation here and elsewhere is much taller and greener than that at Barrow. The willows here are small bushes (along the river) but up on the slopes, they are prostrate as at Barrow. There is much more terrain relief here. The bluffs over the river are 55 feet high in places. Tom and I scoured up a family group of Willow Ptarmigan and we followed them along for a short distance. As we reached the old village site, which is on a high bluff over the river about 1 mi. west of the ARL camp, we saw an Arctic Ground squirrel on a sandy mound. It stood erect in the manner of a Prairie dog but gave no call. On the return trip we saw a Black Belled Plover that acted like she had young. We arrived back at camp at 1230. Still no keys. Tom unscrewed the top on the kitchen and we went in and ate.

1830 The weather this evening (and afternoon) has been overcast and warm (58-60°F). The mosquitoes are out but not bad. A slight breeze is blowing from the west.





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3 Aug. (cont.) Mead River

We decided to east along the river to collect fossils and look around. We saw a savannah sparrow and also a yellow wagtail along the river. We found some nice fossils of coniferous plants that Tom said a fellow from U. of Idaho said were Cretaceous in age. We returned to camp at 2130. The keys arrived so we started the generator and turned on the fridge. We turned in at 2400 after writing notes.

4 Aug. Got up on late. We wanted to go up river, but couldn't get the motor running so we went east away and then turned south west. The terrain is "lumpy" in little tussock like clumps. This made walking difficult. The weather is clear but very windy (from North) and about 55°F. On the way, we saw a wounded Caribou and Black bellied Plover. We walked S.W. until we came to a large ( $\frac{3}{4}$  mi wide  $\times$   $1\frac{1}{2}$  mi long) lake. The shore was covered with big, brightly colored snail shells. I collected several. At the lake, we saw a ground squirrel - Citellus undulatus. We also saw several arctic loons on a small lake. One semipalmated sandpiper flew by. Along the shore of this small lake, we saw 3 Red backs, 5 Pectorals, and one B.R. Plover.





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4 Aug. (cont.) Meade River

Later on, we saw 2 young Red Phalaropes - both could fly. A Glaucous Gull flew by calling and several more appeared and joined in. We saw the wounded Caribou and a small Semipalm on a lake to the east of us and decided to go and get pictures of it. On the way, the Gulls lived at us almost continuously. We took pictures of the Caribou and then turned north toward the camp. We came to a small lake, the G. Gulls all the while overhead calling, and saw 2 imm. Gulls on the water and also 2 Arctic Loons. Apparently the G. Gulls are over "concerned" about our presence in the area while we were a good  $3\frac{1}{4}$  mi from the lake where the young are. The Gulls are now diving very close to us. We returned to camp after photographing the Arctic Loons.

5 Aug. Today also clear and windy - Temp. about  $52^{\circ}\text{F}$  or so. We cleaned up camp and prepared to leave. Watched 2 Caribou get shot by Eskimo hunter across the river. Don Kays arrived at noon so he and Tom and I went east along the river. We saw the one wounded Caribou that the Eskimo had shot and took the





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5 Aug (cont.) Meade River

AKK 30-06 to kill it. Don Kergas returned with the rifle and shot at the animal across the river twice and missed both. Next Tom shot twice, missing the first and hitting the caribou directly in the rump the second. The caribou then swam to our side of the river where Don K. shot it through the heart. We continued on east along the river and ran into a large family group - possibly 2 groups of willow Ptarmigan. Further on we saw a ♂ Red Phalarope, Glaucous Gull, and saw a Black Belled Plover attack a G. Gull. We returned to camp at 1600 and ate. The plane came at 2000.

6 Aug. Plan to go to Umiat today at 1000. I have all my gear ready to go. I checked the Barleese pumpkins. Looks like we will leave later than 1000. The sky is clear and it is windy ~ 15 MPH from the East. Temp. about 38-40 °F.

We left for Umiat at 1245. Clear flying all the way and arrived at 1430. Met. Dr. Spofford and Clayton White at Umiat. They are working on the Falcons of the area and pesticide movement through the ecosystem.





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6 Aug (cont.) Unalakleet

Steve and I looked around the place with Clayton & Dr. Spofford on the way to their mammal trap line. Saw a Northern Shrike on a wire. Steve and I separated from them and went South. We saw at first place - ♀ yellow warbler, at second place, imm white Crowned sparrow, Fox sparrow, on a small pond, ♀ green-wing Teal, a willow warbler, Lovén, and tree sparrow. After supper, Steve and I went with Clayton to check one of his lines. He had captured Microtus oeconomus, Clethrionomys rutilus and Lemmus. We talked about going up the Calville River tomorrow to some falconeries. Saw 2 Northern Chlarys on a pond on our way back. Steve and I fixed up an old Air Force truck so we could haul the boat to the river and then we each set up a C. rutilus. Dr. Spofford and Clayton have two young Peregrines in the lab that come from a nest that they had collected the Ad. ♀ from. We turned in at 2430.

7 Aug. The weather this AM is foggy and cold ~ 33°F. We walked the trap lines with Clayton, got water, and then prepared to take the boat up river.





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2 Aug. (cont.) Umanat

1200 We are now heading for the river. The sun has come through. We launched the 14 foot alum. boat and started the engine. We had trouble at the first rapids but after several tries, found deep water that we could run in. Saw a flock of immature Canada Geese and 1 caribou on the 6 mile trip up river. We went to a cliff with Rough Legged Hawks, Peregrine falcons and Gyr falcons nesting on it. The Rough legs had already left the nest and were flying. 4 young Peregrines still remained on their nest ledge. Steve and I took pictures of both the young and the ad. ♂ & ♀s. The cliff was a loose shale and mud mixture that was rather dangerous to climb on so we went back to the boat and floated down to the Gyr falcon nest. Only one bird was in the nest and it was ready to fly and it did so after we took pictures. The parent birds did not appear. We hunted for bryozoan fossils at the cliff base and then started back down river at 1545. On the way, we saw a spotted sandpiper so we stopped to check it out. It moved up a side channel. We found tracks of Wolf, fox (red?)





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7 Aug. (cont.) Uniat

Ground Squirrel, Caribou, Moose + Grizzly Bear  
We continued on down river. At the last rapids, we hit bottom and stripped the gears in the motor.

1730

Steve and I went for a long walk north east of the camp and came upon 3 caribou. Steve wanted one so we returned to camp for the rifle and the truck. We returned to the area and saw the caribou. Steve attempted 6 or 7 times to collect one but the rifle shoots high plus the fact that it was nearly dark so he failed. I shot twice and was only able to knock off an antler. We followed the animals until they crossed the river to the south. We came back and ate and then turned in at 0000 8 Aug.

8 Aug.

Got up at 1000 and ate. Steve and I went exploring about camp. I located a North-ern shrike catching bees and watched him until 1500. A plane came and left Gordon Maclean from Rhodes of South Africa and Mrs. Spofford G. Maclean had worked with the sand Gnome in Africa and placed them in the Charadriiformes from Colymbiformes. The plane returned for Steve and me at 1645. Arrived in Barrow at 1830 in heavy fog. Noticed the





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8 Aug (cont) Umanit.

Barges are off shore and unloading has begun.

It's cold  $\approx 33^{\circ}\text{F}$  here in Barrow with fog.

9 Aug. Got up and ate. A heavy snow has been falling for about  $\frac{1}{2}$  hour. We are to leave for Cape Thompson today sometime but the weather may not allow it.

1200 Weather still bad. Doesn't look much like we are going.

1630 Flight called off. I changed my reservations to Friday AM. from Sat. so I'll leave then. I have a Longtailed Jaeger to skin and mount tomorrow.





D. Beaver  
1967

Alaska

Insect Sampling





Beaver  
1967

Diptera  
study 1

15 June

Sample #1 from low polygon in Barred  
area S. of camp. Taken to Dermaphant + near  
edge of a trough.

Cover of surface: 50% graminifera + 100%

moss

16 June

Size of sample 350 x 160 x 90 mm.

1. 1 Coleoptera larva  $\approx$  8 mm B.S. (in vial #1)

~~2. 1 Diptera~~

Below surface

2. 1 Diptera larva (?) 4 mm B.S. (in vial #2)

5 mm long. saved in vial #1 Chironomidae?

3. 1 Diptera larva (as above) 6 mm B.S. (in vial #2)

remains  
in vial  
#3

4. 1 Diptera larva - guess  $\approx$  10 mm. B.S. in vial #2  
not as above 2.

5. 1 Diptera larva (as 2 + 3) 13 mm B.S. in vial #2

6. 1 Diptera larva (as 2 + 3 + 5) 13 mm B.S. in vial #2

7. 1 Annelid -  $\approx$  10 mm. 4 mm B.S. in vial #4

8. 1 Diptera larva -  $\approx$  6 mm - 2 mm B.S. very similar  
to larva in vial #1 - placed in vial #1  
Chironomidae?





Beaver  
1967

Oystera  
study 2

16 June (cont.) Sample #1

9. 1 Diptera <sup>larva</sup> - 4mm long. - 4mm B.S.  
Chironomidae? As in vial #2 & placed there

10. 1 Diptera larva - 5mm long - 5mm below surface  
(B.S.) Chironomidae? As in #1. placed in vial #1

11. 1 Annelid. - 10mm long - 16mm B.S.  
placed in vial #4 (same as one from #7)

12. 1 ~~Lepidoptera~~ <sup>Diptera</sup> larva, 12mm B.S.  
- 15-16mm long. same in vial #5. Typula caricifera <sup>(1)</sup>

13. 1 Diptera larva - 6mm long. - 7mm B.S.  
same in vial #6 - doesn't appear to be same as  
#1 & #2 specimens. Chironomidae Typilidae - Pedicia  
hormai in vial w/ other or labeled such. Head cap. width.

14. 1 Annelid - 10mm, 4mm B.S.  
in vial #4. 

0.3mm length.
0.9mm depth of head

15. 1 Nemertea? - 4mm. 2mm B.S.  
in vial #3.

16. 1 Annelid - 7mm. 3mm B.S.  
in vial #3.





Beaver  
1967

Diptera  
Study 3

17. 1 Nematode - 5mm. 1mm B.S.  
in vial #3 discarded

18. 1 larva type 4mm. 2mm B.S.  
in vial #7.

19. 1 <sup>Diptera</sup> ~~Aspidoptera~~ 10mm. 1mm. B.S.  
in vial #5

20. 1 Diptera pupa 3mm 7mm B.S.  
Chironomidae? saved in vial #2 - similar to  
the other one found in #2

21. 1 Nematode 5mm. 2mm. B.S.  
in vial #3

22. 1 Annelid 10mm 10mm B.S.  
saved in vial #4

---






Beaver  
1967

Alaska

Diptera  
Study # 4

15 June

Sample #2 from Barrow area, top of low polygon. Vegetation:

Moss and lichen: Sphagnum? - entire surface.  
Moss with this configuration:  -  $\approx 1/4$  of surface  
and grass - Luzula confusa? 4 small clumps.

Size of sample 160mm. x 80mm x 80mm.  
Items removed.

1. black pupae? 1cm from surface so leaf folded up.

24. 1 larva 12mm from surface - 3.5mm long.

Coleoptera - Fam?? - discarded

25 / pupae 12mm " " 2mm long.

Chironomidae ?? saved in vial #2 - 6/15/67

~~#2~~

17 June

26 Diptera? 7mm. upper 15mm B.S.

Saved in vial #6 (Separated from lot #6.)

19 June

Sample #3 low marsh lands S. & west of

AACS installation, Barrow Alaska

From now on, specimens will not be numbered.

The basic preliminary work of my own plus Madsen & Holmes ~~and~~ show 3 species as Typhlocyba in the run. My major concern is for these three sp. and so further work will be indicated as pertaining to Typhlocyba carinifrons, Pedicia kumai and Prionocera gracilistyla.

### Sampling Techniques

S. Madsen and I discussed the needs of





Beaver  
1967

Diptera  
Study 5

19 June (cont.)

of insect sampling for his work and mine.

The general plan is to:

1. Sample systematically <sup>(pupal)</sup> for all size stages of <sup>larvae</sup> standard size tundra samples) to arrive at an abundance (density if used locally) of each species of Tipulidae for all the habitats found on the tundra. This will be carried out over a number of years.
2. Quantitate the emergence of adult Tipulids by use of emergence cages.
3. Compare quantitatively the number of all larval, pupal and adults found and emerged in a defined area that has been excluded from utilization by shore birds and other birds and/or an area where free access is allowed to all predators.
4. Determine the instar stages of each insect.
5. Investigate the relationship of each species to each other as larvae and adults.

20 June  
1330

Designed Emergence trap for the diptera and will have 6 made for a start.





Beaver  
1967

Diptera 6  
study

17 June Sample #3 Open Flat, standing H<sub>2</sub>O, AAC5 in the for  
Several annelids - not saved.

1 Pedicia hawaii - placed in that vial - P. hawaii ⊕

Several nematodes - not saved.

21 June  
~~2~~

Sample discarded.

⊕ Head capsule width 0.3 mm. Length - 0.65 mm

Depth D-V - 0.1 mm Tot. Length. ≈ 6 mm.





Beaver  
1967

Diptera  
Study 7

21 June

Sample #4 Open flat - Standing H<sub>2</sub>O, AACS  
installation, Barrow Alaska.

1 ♀ Ronnia - 5 mm long  $\approx$  12 mm B.S.  
head cap. length - 0.45 mm. width - 0.2 mm.  
thickness 0-v - <sup>15</sup>0.2 mm.

1 Chironomid - (green tint) 6 mm  $\approx$  4 mm B.S.  
Saved in vial #2 - re head measurements taken.

3 Annelids saved for S. M. Olsen in separate  
vial - all found in upper 20 mm.  
sample discarded





Beaver  
1967

Diptera  
Study 8

21 June

Beach Ridge, 200 yds. west of Mica Mt., Barrow  
Alaska (collected today) (25% organic core did not 50-50)

Sample #5 Taken by core sampler,  
(Diameter = 153 mm) from top of a high polygon.

1 Spider (Saved for Maclean)

2 *Diptera pupae* (Muscid?) 7mm.

Both 7mm B.S. Saved for Maclean.

1 Chironomid larva 9mm long 3mm B.S.

Saved for Maclean.

1 Annelid 2mm B.S. Saved for S. Maclean.

1 Muscid larva ~~10mm~~ 15mm long 28mm  
B.S. Saved for S. Maclean.

Sample Discarded





Beaver  
1967

Diptera 9  
Study

22 June Sample #6 (collected 21 June).  
Beach Ridge, 200 yds. west of Micro Met.,  
Barrow, Alaska (Sample covers in Sample #5)

1 unidentified larva - 4mm.  $\approx$  80mm B.S.  
Saved in vial #8

1 Unidentified larva - 4mm.  $\approx$  80mm B.S.  
Looks identical to above - placed in vial #8

1 nymph of Saldidae Chilocanthus stellatus  
(Curtis) - saved in labeled vial. (only Saldid here  
on the tundra - found)

1 Chironomid (?) 4mm. 10mm B.S. saved for  
MacLean.

1 Chironomid 3mm. 8mm. B.S. saved for  
MacLean.

7 Annelids - all 15+ mm B.S. saved  
for MacLean.

6 Spiders - saved for MacLean - from surface  
turf.

11 Unidentified (Diptera?) larvae (as above)  
4 to 6mm - all 15+ mm B.S. saved in  
vial #8





Beaver  
1967

Diptera 10  
Study

22 June

Sample #7 (collected 21 June)

Beach ridge near micro meter from top of high  
polygon covered with grass. Sparse moss  
undergrowth. Soil dry + grey brown colored.  
50% grass

25 Amelids most about 20mm B.S. saved  
for MacLean.

2 spiders - saved for MacLean - found in surface  
material





Beaver  
1964

Diptera  
Study II

23 June

Sample # 8 (Collected June 21)

Beach ridge near Micro Mat. from top of high  
polygon covered with grass. 75% of top is  
grass, moss underneath. soil grey brown color.

3 *Amelids* - 2 10 and 21 mm BS. 3rd Day  
(96 mm). Saved for Markan.

2 *Spiders* - surface material - saved for  
Markan.

Sample discarded





Beaver  
1967

Diptera  
Study 12

23 June

Sample #9 (Collected June 21)

Beach Ridge near Micro met. taken from  
trough between polygons. 50% grass - understory  
of moss all under. Wet but not saturated.

1 P. lannai 7 mm. 30 mm B.S.

Head length 0.9 mm. Width 0.9 mm. Legs 1.2 mm.  
Send for m. k. m.

Sample discarded





Beaver  
1967

Diptera  
Study 13

24 June

Sample #10 (collected 21 June)

Beach filse near mine site. Taken from  
rough between polygons. 50% grass, moss  
under story - saturated.

1 P. hamai 13mm  $\approx 15-20$ mm B-S  
head length X width X depth X

Saved for S. MacLean. + - these measurements  
cannot be taken on live specimens - therefore,  
the measurements will be delayed until consent  
to take them.

2. P. gracilistyla one - 13mm. one 23mm.  
(Saved for MacLean.) Both from Barless

7. Chironomid larvae. from 5 to 7mm.  
saved for MacLean. (All from Barless)

12 Chironomid pupae 5 to 7mm - saved for  
MacLean - All from Barless.

Sample discarded.





Beaver  
1967

Diptera  
Study 14

24 June

Sample # 11 (collected June 21)

Beach Ridge near Mingo Nat. From top of  
low polygon. 50% gross mass under very

1 Amelid - sand for m. l. l. -  $\approx 25\text{mm}$  Q. 5

Sample discarded





Beaver  
1967

Diptera  
Study 15

24 June Sample #2 (collected 21 June)

Beach ridge near Mine Mat. From top of  
low polygon. 50% grass - few herb. plants.  
moss underfoot - wet (not saturated)

1 I. carinifrons 2 mm. 12 mm B.S.  
Saved for Maclean.

9 Amelids many surface litter  
Saved for Maclean.

1 Identified Diptera larva 5 mm. on surface  
(same as in other samples) saved in lot #8

Sample discarded





Beaver  
1967

Diptera  
Study 16

25 June Sample #13 (collected 21 June)  
Beach Ridge near Mica Met. From flat area  
with standing water on it. 100% grass - some  
moss underneath

2 Tipulid pupae - Look like *Tipula caryophana*.  
4.10 - 6.8 mm 1.6 mm P.S. - saved for S. Menden

1 *Tipula caryophana* larva - 13 mm, 1.5 mm,  
saved for S. Menden  
1 spider "

2 Muscoid Diptera pupae about 1 cm P.S. - saved  
for Menden. Sample Discarded





Beaver  
1967

Diptera  
Study 17

24 June

Sample #14 (Collected 2 times)

Beach Ridge near Micro. Net. From flat area  
with standing water. 100% grass some moss underneath

3 Imecids all about 20-30 mm B.L.

Saved for MacLean

11 Chironomid larvae - all about 4 to 6 mm.

Unless. Saved for MacLean.

Sample Discarded.





Beaver  
1967

Diptera  
Study 18

25 June Sample #15 (collected 21 June)

Beaver bridge near mine ref. Pond edge of  
temporary pond. 50% grass + all with  
massive water.

2 *P. granulata* larvae - A - 23mm, B - 17mm.  
Both larvae - saved for S. MacLean.

1 ~~*P. granulata*~~ *P. homai* - 15mm - 12mm  
B. I. saved for S. MacLean.

Sample discarded





Beaver  
1967

Diptera  
Study 19

25 June

Sample #16 (Collected 21 June)

Beach Ridge near mine. wet. Pond edge &  
temporary pond. 25% grass w/ moss under-  
story. ~~water~~ Standing water

1 P. Lemnai Larva 13mm Dorsal. - saved  
for dissection

3 Chironomid Larvae - 7-8mm Discarded  
- dissected - (Berlese)

1 Annelid - Discarded (Berlese)

Sample discarded





Beaver  
1967

Oystera  
Study 20

25 June Sample #17 (Collected 21 June)

Control Marsh trap line # 5000, Beach  
ridge S. slope to the marsh edge, 25%  
grass - sparse muscunulatus = 70% cover but not  
thick - wet



Sample  
Discarded





Beaver  
1967

Diptera  
Study 21

25 June

Sample #18 (collected 2 times)

(Same area as #17)

50' across - heavy

mass understory - web

0

Sample discarded





Beaver  
1967

Oysters  
Study 22

25 June

Sample #19 (collected 21 June)

Same as #17

725° to gross - heavy

mass under story - wet

1 *I. carinatus*

17mm

on surface

Saved for S. Maclean.





Beaver  
1967

Diptera  
3 July 23

25 June

Sample #20 (collected 21 June)

Same as #17 3 or 4 shots of grass - not heavy  
mass underlying. wet

2 Imnelids - A - on surface B - 20mm B.S.  
saved for MacLean.

Sample discarded





Beaver  
1967

Diptera 24  
Study

26 June Sample #21 (Collected 23 June)

Trap lines 3A and B - S. West end Taken from  
edge of what appears to be cement pond. Covered  
with 2-3" of water. 25% grass. Moderate  
macroinvertebrates.

2 Chironomid ~~larvae~~ Adults ~ 4mm - wingless  
Berlese sample - 5 each for moisture.

Sample discarded





Beaver  
1967

Diptera  
Study 25

26 June

Sample #22 (collected 23 June)

Triglo lines 3A and B - Same as #21

Cover > 25% cover. Moss heavy. Standing water.

2 Annelids. saved for Moulton.

1 Aracnida. saved for Moulton.

1 Chironomid larva 7mm. Not saved for Moulton.

Sample Discarded





Beaver  
1967

Oystere  
study 26

26 June Sample # 23 (Collected 23 June)

Same as #21

25% miss - ~~one~~ long - standing water

3 Annelids - saved for Maclean

1 Rupa of Pionocore? 17mm sand for Maclean

Sample discarded





Beaver  
1967

Distance  
Study 27

27 June

Sample #24 (collected 23 June)

Same as #21 - same as #21

1 Pedicia lamar 12 mm. - Barlow  
saved for Macdon

Songs recorded





Beaver  
1967

Diptera  
Study 28

27 June

Sample # 25 (Collected 23 June)

Same as #21 - cover the same.

23 Chironomid larvae - 3 to 6 mm - upper 12 mm.  
saved for MacLean - all red larvae

8 Chironomid larvae - 3 to 6 mm - Just below 12 mm.  
saved for MacLean - all red - as above

1 Annelid - surface - saved for MacLean

Sample discarded





Beaver  
1967

Diptera  
Study 29

27 June

Sample #26 (collected 23 June)

Same as #21 - ~~as~~ as before in vegetation

3 Annelids - saved for Maclean





Beaver  
1967

Rhytisma  
Study 30

27 June Sample #27 (collected 23 June)

Same as #21 - vegetation as before

3 Amelids - saved for microchem

Sample discarded





Beaver  
1967

Oystera  
Study 31

22 June

Sample # 28 (collected 23 June)

Same as #21 vegetation as before.

2 P. homai - A-22mm. B-17mm. Benese  
- saved for Maclean

Sample discarded





Beaver  
1967

Diptera  
Study 32

28 June Sample #29 (collected 23 June)

Same area as #21. Tolson from trough  
between two flat polygons. Tundra saturated -  
standing water in places. Less than 25% grass.  
Understory of thick moss.

21 Annelids - saved for Maclean

1 P. homaei - 19mm. (Boelcke) saved for  
Maclean

Sample discarded





Beaver  
1967

Oysters  
study 33

28 June Sample # 30 (collected 23 June)

Same as #21 - and as #29 gross ~25% bony  
moss under stone

1 Annelid. saved for Maclean

1 P. homai 14mm. (Berkeo) - saved  
for Maclean

Small discarded





Beaver  
1967

Oystera  
study 34

29 June Sample # 31 (collected 23 June)  
Same as # 29, as in vegetation also

0

Sample discarded





Beaver  
1967

Oxytera  
Study 35

29 June Sample # 32 (collected 23 June)

Same as sample #21 - veg. - grass ~ 50%, heavy  
moss understory.

0

Sample discarded





Beaver  
1967

Diptera  
Study 36

29 June

Sample #33 (collected 23 June)

Same as #29 veg = 50% grass - heavy moss  
understory

O

Sample discarded





Beaver  
1967

Diptera  
Study 37

29 June

Sample # 34 (collected 23 June)

Same as #29 - veg. Same as #33

1 P. hamai 15 mm. (Barless) Saved for  
MacLean.

2 Annelids - 1 discarded - decomposed other saved  
for MacLean.

Sample discarded





Beaver  
1967

Oyster  
study 3d

30 June

Sample # 35 (collected 23 June)

Same as #29 veg. same as #34

3 Annelids

saved for Maclean

Sample discarded





Beaver  
1967

Diptera  
Study 39

29 June Sample #36 (Collected 23 June)

Same #29 - veg same as #32

1 P. hamai 14mm. (Barlase) saved for  
Museum.

2 Annelid - saved for Museum





Beaver  
1967

Diptera  
Study 40

1 July

(30 June) Steve M. and I went out to Beach Ridge - minio  
met tangle feet trap area, and we set up  
3 emergence traps. I called this line one and  
traps #1, 2 and 3.

Trap #1 was set on a low, south sloping area  
of Beach Ridge that consisted of 75% grass  
and a heavy moss understory. The soil is wet.

Trap #2 - was placed on a higher portion of  
the ridge to the north of trap #1. The ground cover  
was 100% grass.

Trap #3 - was placed on the top of Beach Ridge.  
The grass here is about - 75% cover, moss  
understory - 100% - dense.

The second site for the emergence traps was  
Central Marsh on Beach Ridge. I called this  
line two, traps #1, 2 and 3.

Trap #1 was placed on a area in central marsh  
having standing water, 75% grass and a dense  
moss understory.

Trap #2 was placed on the south sloping portion  
of Beach Ridge at this locality. 50% grass, moss  
understory sparse. Mud in places. Soil almost dry.





Beaver  
1967

Diptera  
Study 41

1 July (cont.)

Trap #3 was placed on top of Beach Ridge at this locality ~~on top of~~ in a trough. The soil was saturated, 75% grass, heavy moss understory.

T. Custer and I checked both sets of traps and found no Tipulids.

Line #1

Trap 3 - 1 Diptera

Outside temperature - 40° max. 35° min.

Inside Temperature - 40° max. 35° min.

Trap #2 sev. diptera - very hard to collect sample because of grass. I'll need the vacuum sampler.

Trap #1 - 3 or 4 Chironomids.

Line #2 Trap #1 - 2 + 3 checked but couldn't get accurate count or collect the individuals.

2 July

I checked all the sample collected 1 July and then turned off the Barlese light. Same as quite a few Lemna coming out. I plan to work these samples tomorrow.





Beaver  
1967

Diptera  
Study 42

3 July

Sample #37 (collected 1 July)

Central Marsh low area but not saturated.  
Wet soil . 75% grass. Heavy moss understory

3 Annelids Saved for Maclean

1 P. lennai 10 mm. (Barkse) Saved  
for Maclean

1 Coleoptera larva Saved for SM.  
Sample Discarded.





Beaver  
1967

Diptera  
Study 43

3 July

Sample # 38 (collected 1 July)

Scenario # 37 50% grass.

10 + Annelids

Saved for SM.

2 P. leucis

Both 10mm

- saved for SM

Sample discarded



Beaver  
1967

Dystera  
Study 44

3 July

Sample # 39 (collected 1 July)

Sores #37 72.5% grass.

25% Herbaceous plants

1 P. hamai 14mm.

Saved for Maclean

1 Chironomid pupae.

Saved for Maclean

Sample discarded





Beaver  
1967

Diptera  
Study 45

3 July

Sample # 40 (Collected 3 July)  
Same as #37 - 50% gross.

1 P. homai 7mm. Saved for nec. sec.

2 Chiron. - 1 larva, 1 pupa saved for sm.

2 Coleoptera larvae - Saved for sm.

1 Spider

" " "

Sample discarded





Beaver  
1967

Diptera  
Study 46

3 July

Emergence trap check. - 1455

Line #1 Trap #1

4 Chironomids - large

1 Tipula carinifrons - was ovipositing?  
when collected, ovipositor extended

Trap #2

4 Chironomids - large

Trap #3 Outside temp. Max. 54°F

Min. 28°F

Inside temp. Max. 54°F

Min. 29°F

3 small chiron.

Line 2 - 1445

Trap #1 - Sev. large chironomids

2 - 0

3 - 2 P. kennosi adults - ♂♂.  
saved.

See journal for details of sampling.



Beaver  
1967

Diptera  
Study 47

4 July

Sample # 41 (collected 1 July)

Same as #37

25% grass 25% herb.

heavy moss

1 Tipula carinifrons larva 12mm. saved for  
MacLean

2 Carabid beetles - saved for sm.

3 Spiders - saved for sm.

sample discarded





Beaver  
1967

Oystera  
Study 48

4 July

Sample #42 (collected 1 July)

Same as #37, 25% gross heavy moss understory

1. P. homai larva 15 mm. Saved for SM.

2 Chironomids - 1 larva - saved in vial # 8  
1 pupa - saved for SM.

Sample discarded





Beaver  
1967

Dystera  
Study 49

4 July

Sample # 43 (Collected 1 July)

Series # 37. same as #42.

1 Annelid

/ Same as SM.

1 Chironomid pupa

Sample discarded



Beaver  
1967

Diptera  
Study 50

4 July

Sample #44 (collected 1 July)

Same as #37 - Same as #43

1 *P. granulistyla* 17mm. Saved for SM.

5 Amebils

"

Sample discarded





Beaver  
1967

Oystera  
Study 51

4 July

Sample # 45 (collected 1 July)

Sample from wet, standing water area of  
central marsh at Emergence trap #1, Line 2.  
50% gross heavy moss undergrowth

0

Sample discarded





Beaver  
1967

Oyster  
study 52

4 July

Sample #46 (collected 1 July)  
Same as #45

2 P. kamoi larvae 17 mm

- saved for SM

sample discarded



Beaver  
1967

Diptera  
Study 53

4 July Sample # 47 (collected 1 July)

Same as # 45 - 50% gross - heavy moss  
understory

1 Chironomid pupa - saved for SM.

Sample discarded





Beaver  
1967

Diters  
Study 54

4 July

Sample # 48 (collected 1 July)

Some #45 75% gross - heavy mass.

3 P. homai A - 7mm. B+C 13mm.

Saved for SM

2 Anne's

Sample discarded





Beaver  
1967

Oystera  
Study 55

4 July

Sample # 49 (Collected 1 July)

Same as #45 - 25% gross & heavy moss.

2 P. hernai - A - 9 mm B - 13 mm. Saved for SM.

1 H. mel

"

Sample discarded



Beaver  
1967

Oystera  
Study 56

4 July

Sample # 50 (Collected 1 July)

Seneca # 45

Seneca # 49

3 P. lennai

A - 18mm

B + C - 15mm.

Saved for SM.

2 Annelids

Sample discarded





Beaver  
1967

Diptera  
Study 57

4 July

Sample # 51 (collected 1 July)

Same as # 45 - 25% grass.

1 P. hamai

18mm.

saved for SM.

1 chironomid

"

1 spider

"

Sample discarded.





Beaver  
1967

Diptera  
Study 58

4 July Sample #52 (collected 1 July)  
Some #45 - some as #51

4 Annulid saved for SM.

1 *P. tenuis* 21mm. "

Sample discarded



Beaver  
1967

Diptera  
Study 59

5 July

Sample <sup>th</sup> ~~5~~ 3 (collected 1 July)

collected from the South slope of Beach Ridge,  
Central Marsh & up area. no grass, heavy moss  
cover - wet.

2 Amebids.

Saved - SM.

○ - Diptera

Sample discarded





Beaver  
1967

Dystera  
Study 60

5 July

Sample #54 (collected 1 July)

Same as #53

1 Annelid

- Saved for SM.

Sample discarded





Beaver  
1967

Oystera  
Study 61

5 July Sample # 55 (collected 1 July)  
Same as # 54

3 Amelids

- Saved for S.M.

Sample discarded



Beaver  
1967

Oystero  
Study 62

5 July

Sample #56 (Collected 1 July)

Same as #55

0

Sample discarded





Beaver  
1967

Diptera  
Study 63

5 July

Sample # 57 (collected 1 July)

Same as # 56

3 Ametels - discarded

Sample discarded





Beaver  
1967

Diptera  
Study 69

5 July Sample #58 (Collected 1 July)  
Sones #57

1 ♀ Romai - 6mm. Saved for S.M.

Sample discarded



Beaver  
1967

Oystera  
Study 65

5 July

Sample #59 (collected 1 July)

Same as #58

- 25% gross.

4 ~~Ameliks~~

- Saved for S.M.

Sample discarded.





Beaver  
1967

Diptera  
Study 66

5 July Sample # 60 (collected 1 July)

Species # 57

1 Animal -

~~5~~

Sample discarded





Beaver  
1967

Oystera  
study 67

6 July

Enclave traps data:

Line #1 Traps 3 Outside temperature

Max - 44° F

Present - 40° F

Min - 28° F

Inside Temperatures

Max - 44° F

Present 40° F

Min - 28° F

1 Pedicia lemai Ad. ♂

2 Chironomids

Trap #2 1 Tipula carinifrons Ad. ♂

Trap #1 3 Tipula carinifrons Ad. ♂s

At this line, I took core soil samples #61 through #69. All were taken from the right polygon area of Beach Ridge. Attempts were made to collect "moss clumps" - small lumps of moss that protruded above the surrounding material. All were from sides or tops of polygons.

Line #2 Central Marsh Beach ridge area

Trap #1 4 Chironomids

#2 - 0

#3 - 2 Chironomids



Beaver  
1967

Diptera  
Study 68

6 July (cont.)

2 tools core soil sample # 20 through 25 from  
a trough upon a high polygon of Beach ridge.





Boomer  
1967

Diptera  
Study 69

9 July

Emergence trap results. - Line #I

Trap #1 - 2 Typhlo carinifrons Ad ♂♂

Trap #2 - 0

Trap #3 - 0

Outside temp. Max. 50°F, Min 26°F

Resant - 36°F

inside temp - As above

Line #II

Trap 1 - 1 Pedicia kenmai ♂

Trap 2 - 0

Trap 3 - 3 Pedicia kenmai ♂♂





Beaver  
1967

Oysters 70  
Study ~~67~~

10 July

Sample #61 (collected 10 July)

Beach Ridge Micro Med. area. Sample taken from  
high polygons - "moss clumps" selected. 725% gross,  
thick moss clump. 0

Sample discarded



Beaver  
1967

Diptera  
study

71

10 July

Sample #62 (collected 6 July)

Same as #61

0

Sample dissolved





Beaver  
1967

Diptera  
Study 72

10 July

Sample #63 (collected 6 July)

Sample #62 light over cover

1 Staphylinid beetle - saved for sm

Samples discarded

~~Emergence trap data~~





Beaver  
1967

Oystera Study

73

10 July

1350

Beach Ridge near Micro mat sample area

D. Pitelka and I left for Beach ridge sampling area. We set up a transect running from SW to N  $\approx$  NE direction from the lower level off the south slope of Beach Ridge to the high polygons of the ridge. A second line was run from starting point of the previous line to a point S.W. of other line.



Five foot blocks, 18 mile wide were set up by placing a mile along the string, and extending an 18" stake perpendicular to the string. All Tiputills in this area were counted and sexed. Habitat was noted as the sampling progressed. 42 five foot sections were sampled on Line #I and 20 on Line #II. Next time, I'll put in detailed microhabitat data. Also, the data will be put in metric units to give a  $1/2 m^2$  sample at each station. The data for the first run of Line #I & II are on the following pages. See journal for situation. On Line II, we found 3 Tiputills that appear to be different. 2 were mating. These are considered val #10.





1967  
10 July

P. Yel ka  
+  
Beaver

Oystera  
Study 74

Line 1 - S to N

2 a. 60x18"

Overcast, mild SE  
wind. 22. 90°F

P. A. T

Flat, grassy

1-	F	III
2-		0
3-		0
4	M	I
5		0
6	M	III
7	M	I
8	M	II
9	F	I
10	M	III
11	M	II
12		0
13		II
14		II
15	F	I
16	M	I
17	M	I
18	M	II
19		0
20	F	I
21	M	III
22	F	II
23		0
24	M	II
25	F	I
26		0
27	M	II
28	F	I

gully, on slope, gentle

phrynos top

Trough

phrynos slope

phrynos top

"





1967

10 July

P<sub>1</sub> P<sub>2</sub> T<sub>1</sub>

16 ✓

F

1

polygons to study

27 ✓

M

1

" " "

28 ✓

O

" " "

29 ✓

O

" " "

30 ✓

M

1

" " "

31 ✓

M

1

" " "

32 ✓

O

polygons to study

33 ✓

M

||||

34 ✓

M

1

35 ✓

M

1

trough

36 ✓

1

polygons to study

37 ✓

O

38 ✓

F

1

39 ✓

M

1

polygons to study

40 ✓

O

41

M

1

42

F

1

total

♂

tip

21

P<sub>20</sub>

28

P<sub>100</sub>

0

♀

6

4

0

$$\frac{27}{12} / 8.82 m^2$$

$$3.06 / m^2$$

$$\frac{32}{12} / 8.82 m^2$$

$$3.63 / m^2$$





1967  
10 July

Oystera  
Study 74

Line 2 - NE  $\rightarrow$  SW  
(0 point same for lines 1 and 2)

2. 2. 1.

1✓	M	I
2✓	F	I
3✓	M	I
4✓	F	I
5✓	M	I
6✓	F	I
7✓	M	I
8✓	F	I
9✓	M	I
10✓	F	I
11✓	M	I
12✓	F	I
13✓	M	I
14✓	F	I
15✓	M	I
16✓	F	I
17✓	M	I
18✓	F	I
19✓	M	I
20✓	F	I

4th  
specimen



Beaver  
1967

Dystera  
Study 77

11 July

Sample #4 (collected 6 July)

Same as #61 50% grass, light moss undergrowth

0

Sample discarded





Beaver  
1967

Oyston  
Study

78

1 July

Sample #64 (Collected 6 July)

Same as #61 & 43 - veg. cover

1 *Ixodes carinifrons* 22 mm 12 mm B.S.

Saved for SM

Sample Discarded





Beaver  
1967

Apteris  
Study 79

11 July

Sample #65 (collected only)

Same as #61

0

Sample discarded



Beaver  
1967

Oyster  
Study 80

11 July

Sample #66 (collected 6 July)

Same as #61

0

discarded





Beaver  
1967

Oystia  
Study

81

11 July

Sample #67 (collected 6 July)

Same as #61

0

discarded





Beaver

1967

Diptera  
Study 62

11 July

Sample #68 (collected 6 July)

Same as #61

0

discarded



Beaver  
1967

Diptera  
study 83

11 July

Sample #69 (collected 6 July)

Same as #61.

0

Discarded

The samples have produced so little that they  
will be combined on pages from here on.

Sample #70 - 80 discarded - no time to do





Beaver  
1967

Oystera  
Study 84

12 July

Emergence Trap data.

Line #1 1 - 1 Tipula carinifrons ♂

2 - 0

3 - 0 outside - max. 58°F

Res - 50°F

Min. 26°F

Inside max. as above for all.

MM. 26.

Line #2 1. Tipula carinifrons

0

2 - 1 Tipula carinifrons ♂

4 Chironomids. large.

3. 5 ♂ Pedicia, 1 ♀.





Beaver  
1967

Optima  
study 85

13 July

Transect # II

Micro met. Beach Ridge

1/2 meter square - 63 units.

Habitat

No.	Sex	Tipula	Prionocera	Pachira	Habitat				
					Topo.	moist.	Veg.	growth	cut.
1	♂	—	—	—	f/s/	3/0A/	4/5/1		
2	♂	—	—	—					
3	♂	—	—	—	f/s/	1/0A/	4/5/0		
4	♂	—	—	—					
5	♂	—	1	—					
6	♂	—	1	1					
7	♂	—	—	—					
8	♂	—	—	1	"	3/0A	"		
9	♂	—	—	1					
10	♂	—	—	11(2)					
11	♂	—	—	2					
12	♂	1	—	—	"	3/0A	"		
13	♂	—	—	—					
14	♂	—	—	—					1
15	♂	—	—	1					
16	♂	—	—	—					
17	♂	—	—	1					12
18	♂	—	—	—				4 3/5	"
19	♂	—	—	—					
20	♂	—	—	1					
21	♂	—	—	11	"	2/1A	tot. 750%		"
22	♂	—	—	—					1
23	♂	—	—	2					
24	♂	—	—	2					

Veg. - reversed,  
Total living



Beaver  
1967

Diptera 86  
Study

13 July (cont.)

No.	Sex	Tipula	Limonium	Redoxia	Habitat		
					Popo	moist	veg / growth / cat.
25	♂ ♀			1	"	2/10A	" / 1
26	♂ ♀			1		"	4/5 "
27	♂ ♀					"	"
28	♂ ♀			1	"	1/10A	" / 10
29	♂ ♀			2 1		"	"
30	♂ ♀			1		"	"
31	♂ ♀	1			"	2/1A	" / 1
32	♂ ♀				"	3/10A	3/4 "
33	♂ ♀				m-ch/w	3/10A	3/4 / 1
34	♂ ♀	2		2	"	"	/ 3
35	♂ ♀			1	"	"	"
36	♂ ♀	sup 1		1	"	2/10A	" / 12
37	♂ ♀			1	"	"	"
38	♂ ♀			1	f/s	"	/ 1
39	♂ ♀			1		4/5	/ "
40	♂ ♀				"	"	"
41	♂ ♀	1			m/w	3/10A	4/5 / 2
42	♂ ♀	1			mch/w	4/NA	3/4 / 3
43	♂ ♀			1	"	3/NA	" / 2
44	♂ ♀			2	"	"	"
45	♂ ♀			4	m 1/2, f 1/2	4/5	"
46	♂ ♀			1	f / s	1/1A, most B	1/10 / 0
47	♂ ♀			1			
48	♂ ♀			2			
49	♂ ♀						

(11 #86)





Beaver  
1967

Optera 87  
study

13 July (cont.)

No.	Sex	Tipula	Pelecanus	Pelecanus	Habitat		
					Tree	moist	veg / grass / cut.
50	♂	1			f / s	1/4	4/5/0
51	♂	1		2	m / w		"
52	♂			1	"		3/4A / 3/4/3
53	♂	1			"		"
54	♂	1			m / w		3/4A 3/4 "
55	♂	—	—	—	" / w		3/4A / 3/4/ "
56	♂	—	—	—	lp (slope)		3/4A "
57	♂	3		1	lp eroded		1/4 B / 2/4/1
58	♂	1			"		7/4A B "
59	♂	1					"
60	♂	1					"
61	♂	1					" 7/4A "
62	♂	2					"
63	♂				lp (top)		1/4A of

5/7 grass

2/3 grass





Beaver  
1967

Oystera 88  
Study

15 July Emergence Traps.

Line # I 1 - 0

2 - 2 *Dipoda* c. ♂

3 1 *Tiupa* c. ♂

Temp. Max 62°F

Min = 36°F

Pres = 48°F

Inside  
H  
outside

Line # II 1. 1 ♀ *Dipoda* c.

2 - 0

3 - 1 ♂ *Pedicia* h.



Beaver  
1967

Diptera  
Study 88

17 July

Berlese's sod samples from Central Marsh  
14 July - collection date - 17 sods collected.  
All placed in Berlese funnels.

all larvae saved for SM.

P. homai 7 - larvae - 4 → 10 mm, 1 → 8 mm, 2 - 14 mm.

Prionocera g. 1 - larva 21 mm.

Diptera larvae - not counted yet.  
Small larvae

2300

skene and I collected 18 sod samples 10 yds.  
south of Imikpuuk lagoon. Area sat. - by  
recent rains.

Prionocera g. 1 → 24 mm, 1 → 9 mm. (placed in  
vial #8) 1 → 25 mm, 1 - 23 mm, 1 - 15 mm, 1 → 10 mm.

Diptera larvae saved - not counted.

The above plus these yielded 556 and  
800 small Diptera or - 2432 total.





Beaver  
1967

Diptera  
study 89

18 July

### Emergence Traps

Line I #1 ♂ Ad. *Prionocera* -

#2 - 0

Flooded - #3 - 0

Outside - 42°F

inside - "

Line II #1 1 *Pedicia* ♂ - Flooded.

#2 - 0

#3 - 0 - Flooded

19 July

Picked up 16 sod samples from bies 4A-B  
from S.W. flat area - grassy. Flooded in funnels  
same day.

2 for all samples a few Diptera  
larvae - Dissected

21 July

1620 Steve M. and I were at line I and collected  
the sticky boards. I checked the emergence traps.

#1 - 0

#2 - 0

#3 - 0 - outside - 42°F - inside 42°F

At Line II

#1 - 0

#2 - 1 ♀ *Hydrobia* ♂

#3 - 1 *Prionocera* ♀ ♂

We collected 16 sod samples, 8 from road way  
and 8 from undisturbed part of Central Marsh.





Beamer  
1967

Diptera  
Study 90

21 July (cont.)

While at Line #1 - I characterized the following  
stickle board sites. #1 - m - w - 4/0 - A - 4/4 - C3  
#4 - k - p - d - 2/1 - A - 2/2 - C0.

23 July changed soil samples - The 8 from the  
roadway yielded 0. The other 8 from undisturb-  
ed ground yielded:

2. Phaniscia 1 - 23 mm., 1 - 12 mm.

Samples discarded

P.M. Skene and I collected 16 sods from  
North Meadow Lake - West side. These were  
placed in funnels immediately.

24 July

Emergence traps Line #I

Trap #3 - 0 - 440 F - out  
400 F - in

Trap #2 - 0

Trap #1 - 0

Serial net trap. Top - 6 Ad. Nematocerans

3rd - 6 Ad. "

1 Ad. Brachycera

2nd - 1 Ad. "

1 Ad. Nematocera

Bottom - 11 small Ad. "

1 lg. Ad. "



Beaver  
1967

Oystera  
Study 91

24 July (cont.)

Site # II

Trap #1 - 1 Ad. Trichopteron

Trap #2 - 1 ♀ tipula

Trap #3 - 0

26 July P.M. Checked 23 July samples.

Yields:

6 p. Lammia - ~~to~~ 1 → ~ 20 mm., 2 → 12 mm.

1 → 8 mm., 2 → 14 mm.

Samples discarded.

Steve and I put in samples collected  
earlier today from E. side of Central  
Marsh. (16 rocks)

27 July. Emergence traps. (Raining)

Line #1 - Trap #3 - 0 - 36°F out  
36°F in

Trap #2 - 0

Trap #1 - 0

Line # II - Trap #1 - 2 Brachycera

" #2 - 0

" #3 - 1 Lg. Chironomid





Beaver  
1967

Diptera  
Study 92

28 July 1st check of the 26 July Sods was made today.  
Found:

7. p. lamai - 1 → 18mm, 3 → 11mm, 1 → 9mm, 2 → 14mm.

Dipteran larvae (Nematocera probably)						29 July
Sample #	28 July	AM.	<del>PM.</del>	AM.	PM.	
1		73		33	7	20
2		8		20	3	7
3		223		41	5	13
4		17		12	3	5
5		83		17	3	3
6		84		27	4	7
7		83		50	12	32
8		74		41	8	13
9		113		43	5	8
10		131		66	6	21
11		27		21	4	2
12		15		62	11	12
13		35		28	12	10
14		139		41	7	4
15		15		20	0	2
16		<u>136</u>		<u>51</u>	<u>3</u>	<u>12</u>
Totals		1275		573	95	171

last  
check

Total this sample 2106

Total of 21 + 20 and 26 July Nemat = 3462





Beaver  
1967

Diptera  
Study 93

29 July

8 soil samples collected from central marsh.  
grassy area.

1st check

2 Trinoceroides g. larvae

1 - 27mm.

1 - 20mm.

2nd check

3 P. hanna

1 - 14mm.

2 - 10mm.

9 P. hanna

1 - 15mm.

4 - 12mm.

3 - 10mm.

1 - 9mm.

3rd check - 4 August.

4 x P. hanna

6mm, 15mm, 10mm,

14mm.

Sample discarded; see below.

Steve and I decided that soil samples will be replaced in the Berlese funnels once every 6 days. This amount of time will dry the samples completely, cause everything that will emerge to do so or die in the soil. He wanted some from soil edge so 8 of the 16 taken from central marsh were discarded.

NOTE: Hans picked 4 August: found 4 P.

hanna larvae - 16mm, 12mm, 11mm, 9mm.

= 80% efficiency ( $\frac{16}{20}$ ) with berlese extraction.



Beaver  
1967

Diptera  
Study 94

30 July

8 Sod samples collected from flat east of  
AACS. Pond edge and trough areas. Called  
area the Beach Ridge Crossing.

1st check

2nd check

1 <u>Protonotus</u> g. - 23mm.	1 larva	1 <u>Protonotus</u> g.
16 <u>P. hanna</u> larvae		larvae - 29-32mm
11 - 11mm.		
1 - 15mm.		
2 - 9mm.		
3 - 6mm.		

~~27~~

Sample discarded - 4 August, 0900.  
Emergence types.





D. Beaver  
1967

Alaska

Species Accounts





Beaver  
1967

Species account

Arctic  
Loon 1

Barrow, Alaska

26 July

On a houseboat near Elson Lagoon, two Arctic Loons flew over and they were giving a sort of quacking - honk like call. They flew around the area for about 10 minutes doing this and then the both landed in a small pond. The landing was spectacular in that they just "crashed" into the water.



Beaver  
1967

Species  
Account

King Eider 1

13 June

Barrow, Alaska

0930

I've just walked across a very large area that is completely covered with old barrels and other trash. I've never seen such a junk pile! Anyway, I came upon a ♂ Eider - King Eider sitting in a small pond. The colors on this bird are really something! The bird never attempted to fly even though I walked to within a few feet of it. It must be injured or else lame - I doubt the latter very much.

12 July

I haven't been recording it, but since about 1 July, flocks of King, Pacific and Spectacled Eiders have been flying west along the coast. I read an interesting paper on the Eider loss at Pt. Barrow - and this called their presence to my attention.





Beaver  
1967

Species  
account

Golden  
Plover 1

13 June Barrow, Alaska

1030

In out in an area that is to the east of a road and all the sandbars. There are a few sandbars here but not many. I just saw a large black and white headed bird that I identified as a Golden Plover. It is running and the stopping to peck at the ground. It also gave a loud shrill two note call, sort of a "wee heep" call. It is a much larger bird than I expected it to be.

16 June Several pairs directly behind camp. Looks like they may nest.

24 June Central marsh now has small flocks of non-breeding(?) or possibly ones that failed to complete egg laying etc. The birds are feeding on the wet marsh & disturbed areas at the base of beach ridges.

P.M. Nest of G.P. discovered in barrel area today. The eggs are very large.

30 June Flocks in cent. marsh and elsewhere are growing in size. Must be more birds <sup>that</sup> ~~which~~ did complete nesting.

13 July Have consistently observed a small, mixed flock of G. Plovers near AACS since about a week ago. Other sandpipers in the flock are mainly R.B. Sandpipers and Pectorals.





Beaver  
1967

Species  
accounts

Golder  
Plover 2

Barrow, Alaska

16 July

Steve & I captured an ad. on its nest near F.A.A. This was accomplished by placing a mist net on the ground near the nest and then flipping it up over the bird as it settled on the eggs. See Journal for Diagram (pg 48.). Hopefully, other birds will be captured this way.

17 July

~~the~~ Steve & I looked at a nest near A.A.C.S. - must have young because parents gave displays near by - and are with 4 eggs on Beach ridge. We made plans to capture the adults by the mist net method. Later - PM - Steve & I caught one adult from each nest.



Beaver  
1967

Hudsonian  
Curlew 1

11 July

1400

Barrow Alaska Near AACS buildings.

Dr. Pitelka, Tom Custer and I were driving south towards lines I and II (Lemming traps line) when Dr. Pitelka sighted 3 large shore birds sitting on Beach Ridge about 50 yds. East of us. He identified them as Hudsonian Curlews. I took several photos with the 350mm lens, and then attempted to get close enough to collect one. As I prepared to do this, one bird began to do a strange walking in circles and sort of squatting and ducking its head and extending the wings. It did this several times and then the next bird did the same thing. I then approached but they flew off. I took a long shot with #9's but no score.





Beaver  
1967

Species account

Calidris pusillus  
Semi-palmated  
Sanderling 1

13 June

Area about 1/8 mi S. of Barrow camp, many trash  
piles and barrels, 9 ft elevation, sloped.

0940

In near a large pipe (gas?) and also  
a telephone wire (East of road about 100 ft.).

Two sanderling just flew over me and  
lited by a small pond. I identified them  
as Semi-palmated sanderling. One bird took  
off giving a "kurn" call and the other followed.  
The chased(?) each other in large erratic flight  
paths going as high as 75 ft (estimated visually)  
and as low as 4 or 5" from the ground.

15 June

0915

In barrel area with Karl and saw  
2 C. pusillus. One bird (♂?) flew up  
in the air with shallow wing beats while  
giving a continuous "frog" or "trill" like call.  
The bird hovered into the wind and gave the  
call continuously for at least 30 sec. before  
descending to the other bird which had  
~~not~~ done ~~any~~ <sup>nothing</sup> during this time. When  
the male approached the second bird, it  
crouched and ran toward the bird, which  
assumed a similar posture and then  
backed off. The ♂ then appeared to attack  
the other bird by pecking and beating it  
with its wings. Both birds continued in  
this behavior across the tundra until one  
of the birds flew. The behavior of the





Beaver  
1969

Species account C. pusillus 2

15 June (cont.)

0915 (cont.) of the two birds indicate both were males and that a territory was in dispute.

0940 The C. pusillus nest located by Kent T. earlier has 3 eggs which are pointed at blunt end outside. The coloration at the blunt end is a darker brown than the pointed end.

The birds were quite nervous during this examination of the nest. The ♀(s) stood near by calling and flying about.

20 June seem to be Semipalmated sandpiper only in the Barrel area. Here there are a number of them. The green tundra is surprisingly empty of C. pusillus!

13 July The Semipal. have hatched (most nests, I think) & took photos of the young of a nest group near A445.

15 July Still activity in the Barrel area. Should be coming to a close soon though since young of most nests are hatched & moving off.

17 July Skene & I came across a small flock of Semipal., Pint., and white rumped sandpiper feeding in a pond near the reapers. The birds appeared to be taking aquatic larvae of some kind.



Beaver  
1967

Species  
accounts

Semipalmated 3  
Sanderling

Barrow, Alaska

30 July

Large (40-70) flocks of Semipals. are now appearing in Cent. marsh. Today, there were at least 3 of these flocks in a.m. They are very tight flocks and they fly frequently.





Beaver  
1967

Species  
accounts

Pectoral  
Sandpiper 1

### Barrow Research Station

13 June

Saw a Pectoral Sandpiper feeding on a small knoll. The bird was moving rapidly between small open patches in the snow. It gave no calls.

AM. K. Tolonen and I walked down a ridge the K.T. called village ridge. We came across a flock of 17 (by both our counts) of mainly ♂ birds (most had the large grey inflated chests and were pursuing ♀'s about while give "hoot" and what sounded like a low, booming series of hoots.) Most of the ♂ were feeding on open patches of tundra.

14 June

Dr. Pitelka, Steve & I saw a few (very few in relation to what can be there - a.c. Pitelka) birds flying around foot print lake (N. end).

24 June

♂'s flocked or at least appear to be starting. Steve collected 4 ♂ from small flocks. No ♀ were seen.

~~AM Found a ♀ nest in bare area.~~

30 June

Larger flocks of ♂ are now appearing on the tundra. Max. size is about 20 birds from what I've seen. Many mixed flocks (small) with pectoral, Red backs, Semipalm and Plover.

14 July

Steve, Edna & I came across a mixed flock of P. Sandpipers and R.B.'s. There was about 30-40 birds in the flock. This is the largest flock so far.





Beaver  
1967

species account

Pectoral  
Sandpiper 2

Barrow, Alaska

14 July (Cont.) A short distance on in Central Marsh, we come across a flock of all Pectorals (40-50 birds) that is the largest I've seen yet. This is small compared to past years at this time. (Per. comm. - Steve).

15 July P.M. Steve collected 5 Ads. from a flock near ADCS. This flock has been growing in size last few days. It has been mixed, having G. Plovers, R. B. Sandpipers, an occasional Baird and ~~more~~<sup>today</sup> a Curlew Sandpiper (Seesp. acc. for 15 July - C. Sandpiper).

21 July Scattered flocks still around, but not nearly as many birds as earlier.





Beaver  
1967

Species account

C. alpina  
Red-backed Sandpiper  
1

13 June

Barrow, Alaska

P.M.  
(noting)

Karl T. and I were along ~~Fairly~~ Village ridge and have just sighted a Red Backed Sandpiper. The bird ~~pecked~~ <sup>(very frog like!)</sup> and flew about, calling and giving a variety of displays.

14 June

1020

Madeon Dr. Pitelka and I are on a series of high polygons near the SAC5 of the area just S. of camp. While standing near a Lapland Longspur nest, a R. B. Sandpiper was observed feeding and giving calls. As we approached, she gave a distraction display, indicating she had a nest close by. We walked back slowly and watched her move toward her nest. After settling in several sites, she settled down which indicated the location of the nest. Then we re-approached and located the nest with 4 eggs. The eggs were very large and dark colored on the large end. We left after marking the nest.

11 July

T. Custer, Dr. Pitelka and I are setting traps at line 1 & 2. A R. B. Sandpiper has a nest near by because she has been giving distraction displays around us as we set traps. There seem to be few R. B. Ss in the area. Much lower densities than previous years (F.A.P.).





Beaver  
1967

Species  
account

Red back sandpiper  
2

13 July.

The young Red backs are now moving about. I photo'd one near SACS. I suppose most nests have hatched or will be soon.

15 July

Steve & I came across 2 family groups of L. B's feeding on a slight, raised hillock in the N. edge of Cent. marsh. They were probably eating Tipulids. We found all three sp. of Tipulids here but Tipula c. was very abundant (in relation to other two).

21 July

Steve & I have been doing transects and I've noted (as has Steve) the complete lack of birds on the tundra. I've seen a few scattered Red backs since the transects began. Amazingly quite.





Beaver  
1967

Curlew Sandpiper 1

15 July

Coast of Alaska - Barrow Alaska

1930

Steve & Edna Maclean and I stopped at a  
flat of Red Banks, Plover, Redtail and L. Turnstones  
when Steve saw a Curlew Sandpiper. It was feeding  
in with all of them. We got out to observe it but  
I lost sight of it.





Beaver  
1967

Species account

Buff-Breasted  
Sandspiper 1

27 June

1675

Barrel area, 1 1/2 mi S. of ARH camp. Steve MacLean and I were returning from a walk to the S. end of Nancy Bucket Lagoon via Beach Ridge when we sighted a Buff-Breasted sandpiper in what Steve called an aerial display. Two birds presumably males were fluttering side by side with the yellow-orange legs dangling. They flattered upward to about 75-100 feet and then both flew rapidly down to the ground. Then, as these two birds left, another one appeared and a series of wing flashes, always directed at one or the other Buff-Breast occurred.

The birds chased one another across a fairly large area - 100 yds. or so square - while continuing to do the aerial display and also a pecking, fluttering, fighting like behavior occurred between the birds when on the ground. One bird near us and began feeding. When any other Buff-Breast flew by, this bird would flick its wing toward it, sometimes so vigorously that the bird appeared to nearly fall over. This bird also gave a series of short, fluttering legs into the air. It gave what Steve called an "H" display where both wings were spread and curved forward, the chest feathers cupped out, and the tail turned up sharply - 90° or so the body. It gave a "chik" or "chik" call while





Beaver  
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Species account

Buff-breasted  
Sandpiper 2

27 June (cont.)

1615 Long this. We continued to watch for a while but the activity subsided completely in a few minutes.

28 June

in the Barrel area about the same location as the previous entry. I just photographed a Buff-breasted Sandpiper at about 15' with the 350 mm. lens. It fed along the edge for a while and then flew off. No displays were given.





Beaver  
1967

Species account

Northern  
Phalarope 1

13 June

Bonanza, Alaska (near FAA Bldg)

K. Tolonen and I came upon a pair feeding in a small pond near the road. As we approached, they gave a shrill alarm call but didn't fly. We got within 5' or so of them.

6 Aug.

Saw two birds on a pond at Unalakleet. C. White showed the spot two us in hopes we would see a W. Snipe - which we didn't.



Beaver  
1967

Species  
account      Red  
Phalarope'

Barrow, Alaska (near F&A buildings)

13 June

K. Tolonen and I came upon a pair feeding in a small pond where two Northern Phalaropes were feeding. The Red gave a call (alarm, I'm sure) that was higher pitched than the Northerns. Both birds were quite tame.

10 July

I have noticed that 9's one gone now or at least few are around. Others are incubating eggs and are inconspicuous. Some are still in nonbreeding (?) habits.





Beaver  
1967

Species account Pomarine  
Jaeger 1

13 June  
0950

Port Barrow Alaska  
Sighted a P. Jaeger sitting on a raised piece of tundra vegetation. The bird resembles a gull in its body form and manner of stance. When it flew, the wing beat was very slow and deliberate. The bird moved over the tundra in a pattern very similar to that of a hunting Marsh Hawk. It stayed close to the ground and appeared to be looking intently at the ground while flying. It lit abruptly several times but I could see nothing that may have indicated it had captured a prey item (tanning?)

14 June

Harold T. and I are on Gosline ridge and just  $\frac{1}{4}$  mi. S. & slightly W. of the F.H.D. houses. About  $\frac{1}{4}$  mi. to the N.W. west of us, a pair of P. Jaegers are behaving like they are copulating. One bird ( $\sigma$ ) mounts the  $\phi$  from the side with his wings held high over his back and gives a cawing note. They are too far away to see real

3

diary

19 June

1530

S. MacLean and I are on Gosline ridge and have spotted a Pom Jaeger sitting in a low, wet area of the tundra S. of the building of the micro-met. installation about 300 yds.





Beaver  
1967

Species accounts

Pomarine  
Jaeger 2

19 June (Cont.)

As we approached the birds, she<sup>(?)</sup> flew up from the nest and toward us giving a "cow" "cow" call. The other bird ♂ appeared and flew around us but I didn't hear him call. The ♀ came closer to us as we approached the place she had been sitting. We assumed she had a nest, so we moved back to a point on the ridge, separated to triangulate on the nest when she returned to the nest. Almost immediately, she returned to the nest and we moved to the nest, which had two eggs, spaced like so in the nest. They were

(O O)

not very close together so possibly incubation has not started. All the while we scanned the nest, the ♀ flew in close to us calling, while the ♂ stayed further away.

24 June

Steve & I were checking the tongue floats so I checked the nest. Could not find the exact spot nor were the adult birds around. Must conclude the nest failed. This appears to be the case also where except in the flat just NW of here by Family Lagoon. I think that nest is still active.





Beaver  
1967

Species account

Parasitic Jaeger

1

- 13 June Barrel area, 9th. Pt. Barrow Alaska  
1045 I just sighted a dark bird with short, pointed center rectrices which I believe to be a parasitic Jaeger. The bird flew with a slow wing beat across the tundra east and out of sight.
- 15 June  
0930 Karl T. and I just saw a dark, gull like bird which Karl and I thought was a parasitic Jaeger. The central rectrices were short and pointed. It flew to the east a short distance and then to the S. West. close to the ground.
- 5 July I collected a beautiful ♂ ad. parasitic Jaeger in the Barrel area. The bird is in excellent plumage so I decided to put him up as a skin.
- 2 July The Jaeger's skin is very greasy so I had to wash it in white gas.





Beaver

1967

Species  
accounts

Long tailed  
Jaeger 1

Barrow, Alaska

9 July

T. Auster and I saw a flock of L.T. Jaegers feeding on beach ridge. They appeared to be eating typulids. They flew as we approached and their flight was very "tern like."

26 July.

Have seen several individuals hunting along Beach Ridge near micro met and near pitfall census plot.





Beaver  
1967

field account

Snowy Owl 1

13 June St. Barrow, 9 ft. Alaska

0950

I've just spotted a snowy owl sitting on a power pole about 1/8 mi. south of camp. The bird is slightly larger than the S.H. Owl and has no "bars" evident. The S. owl just sat there while I walked within 25 feet of it. He ~~but~~ he changed position, but didn't fly off. I see one other owl flying across the tundra east about 1/4 mi. from here.

14 June

100 yds. N. of Pipeline ridge, Barrow Alaska

1030

Snowy owl was observed sitting on a nest mound. She lay very flat. Dr. Pitelko said she had 5 eggs several days ago, but that one was broken some how, so 4 remain.

17 June

1050

Barrel Cove, 1/2 mi. S. All buildings Barrow Alaska.

I just saw two snowy owls, one <sup>was</sup> pursuing the other across the tundra. When the one in the rear caught up to the first one, it struck at it with its feet. The other one dove nearly to the ground and then kept on flying west. The pursuing fowl like a barrel. I'm not too far from the S. owl nest when the pursuit and it is possible that these or at least the latter bird is one member of that pair.





Beaver  
1967

Species accounts

Snowy Owl 2

19 June

2000

Central Marsh, Pt. Barrow, Alaska

Ron T., T. Custer and I saw a S. Owl carrying a large black and white bird. The S. Owl flew out into the swamp and lit in the water. We drove up even with the bird and the owl flew off leaving the prey laying in the water. Custer and Tolson went over to the bird and retrieved it. On returning to the ~~lab.~~ lab., we decided it was a murine (it had no lead). Dr. Pitelka said it was a Thick-billed murine.

23 June

Both S. Owl nest in the area have failed (Steve & Dr. Pitelka obsv.) must not be enough Lemmings around to keep them going. The adults are still here but no nesting is going on.

7 July

Several owls still in the area near camp. One stays in the farred area most of the time. One nearly always seen in central marsh and one out on Beach Ridge near micro met.





13 June


Barrow Research Station, 7th. Alaska.

0915

Just sighted 2 Lapland long-spurs. There are several other pairs nearby. This pair is feeding<sup>(3)</sup> along the edge of a channel or groove in the tundra. They seem to be eating grass or possibly seeds. Every few minutes, the ♂ stops and gives a rolling trill-type song.

14 June

A.M. ~ 10:30 S. Maclean, D. Pitelka and I are on

a area of high center polygons. We just came upon a marked (by Pitelka) long-spur nest. There are six eggs in the nest arranged as: in two rows of three. The eggs are dark colored  and have very fine speckling. The ♀ flew off a couple of meters and remained, calling, while we examined the nest.

15 June

0920

Karl T. and I located a long spur nest found and marked earlier by Karl. The nest had six eggs in it and their arrangement was that of the previously described nest. Might note here that both this and the nest of 14 June ~~are~~ were recessed pockets, the top of the nest being level or below the level of the surrounding ground.





Beaver  
1967

Spears accounts

Lapland  
Longspur 2

17 June

1235

Barrel area, 500 yds. the west of yellow race  
building, Barrow Alaska. I just located a  
nest with 7 eggs in it arranged as follows:



They completely filled the nest cup. Other eggs would  
have had to be placed on top of these to be contained within  
the nest.

One ♀ and 2 ♂ birds were seen in the  
immediate vicinity.



Beaver  
1967

species accounts

Snow Bunting 1

13 June

Barrow Research Station, 9 ft, Alaska

09:10

I see two snow buntings, ♂ & ♀, running around on a small grassy knoll just 100 yds south of the res. station. The male is much whiter than the ♀. He gave a drill note and fluttered around near the ♀ with his wings held slightly away from his body. The ♀ did nothing.

16 June

Noted that again no nesting in the small nest box in the front of the laboratory. Saw ♀ come from the box.

18 June

Other S. Buntings are nesting in the Baruel area, most in barrels. Saw one ♀ that was badly oil stained. She was able to fly, but not well.



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